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DRAWING DIRECTORY

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UNIT VARIATIONS	
VAR	TITLE
MS11-MA	128K BYTE ECC MOS MEMORY
MS11-MB	256K BYTE ECC MOS MEMORY
MS11-MC	512K BYTE ECC MOS MEMORY (2-MS11-MB)
MS11-MD	768K BYTE ECC MOS MEMORY (3-MS11-MB)

REV. A	CHANGE NO.	INT. RELEASE	CHK -		USED ON OPTION/MODEL 11/44	DRN. H. DARAKJIAN	DATE 31 JAN 79	TITLE MS11-M ECC MOS MEMORY 									
					CHK'D. J. DINOPOULOS	DATE 19 DEC 79											
					PROJ. ENG. J. MANTON	DATE 19 DEC 79											
				SHEET 1 OF 2	PROD. <i>Bob Dehoff</i>	DATE 1/9/80	SIZE B	CODE DD	NUMBER MS11-M	REV A							

DIGITAL EQUIPMENT CORPORATION PARTS LIST

QUANTITY / VARIATION

NOTES:
 1. QTY OF 1 DEPENDING ON VARIATION USED (MS11-MA)
 2. QTY OF 1 DEPENDING ON VARIATION USED (MS11-MB)

MADE BY H. DARAKJIAN DATE 31 JAN 79	CHECKED D. HEALY DATE 26 DEC 79	SECTION 1
ENG J. E. MANTON DATE 1-15-80	PROD B. SCHAAF DATE 1-15-80	ISSUED SECTION 1

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	MS11-MA	MS11-MB	MS11-MC	MS11-MD
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1	K-PL-M8722-AA-DBP	M8722-AB	128K BYTES/MOSTEK 16K CHIPS	1	-	-	-
2	K-PL-M8722-AA-DBP	M8722-AC	128K BYTES/FUJITSU 16K CHIPS	NOTE 1	-	-	-
3	K-PL-M8722-AA-DBP	M8722-AF	128K BYTES/HITACHI 16K CHIPS	-	-	-	-
4	K-PL-M8722-BA-DBP	M8722-BB	256K BYTES/MOSTEK 16K CHIPS	-	NOTE 2	NOTE 3	NOTE 4
5	K-PL-M8722-BA-DBP	M8722-BC	256K BYTES/FUJITSU 16K CHIPS	-	NOTE 2	NOTE 3	NOTE 4
6	K-PL-M8722-BA-DBP	M8722-BF	256K BYTES/HITACHI 16K CHIPS	-	NOTE 2	NOTE 3	NOTE 4
7	B-PL-MS11-M		MS11-M SHIPPING LIST	1	1	1	1

REF DESIGNATION

NOTES:
 3. A QTY OF 2 MS11-MB MODULES (SEE NOTE 2 FOR VARIATION)
 4. A QTY OF 3 MS11-MB MODULES (SEE NOTE 2 FOR VARIATION)

E.C.O. NO.

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TITLE
ECC MOS MEMORY (MS11-M)

ASSY NO.
B-DD-MS11-M

SIZE	CODE	NUMBER	REV.
B	PL	MS11-M-Ø	A

SHEET 1 **OF** 1

INSERTION PARTS LIST DATA BASE REV

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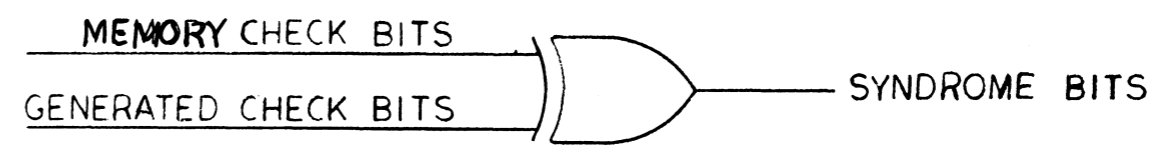
MODIFIED HAMMING CODE MATRIX

	BYTE 0							BYTE 1							BYTE 2							BYTE 3							CHECK BITS									
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	C ₁	C ₂	C ₄	C ₈	C ₁₆	C ₃₂
DATA BITS																																						
SYNDROME BITS																																						
S ₁	X		X		X		X	X		X		X		X	X		X		X		X	X		X		X		X	X		X		X		X			
S ₂		X	X			X	X		X	X			X	X		X	X			X	X		X	X			X	X	X		X		X		X			
S ₄				X	X	X	X				X	X	X	X				X	X	X	X				X	X	X	X	X		X		X		X			
S ₈	X	X	X	X	X	X	X	X	X	X	X	X	X	X								X	X	X	X	X	X	X	X	X		X		X		X		
S ₁₆	X	X	X	X	X	X	X								X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X		X		
S ₃₂								X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X		X		
ST	X		X		X	X		X		X	X	X		X	X		X	X	X		X	X		X	X	X		X	X		X		X		X			

EACH CHECK BIT IS THE RESULT OF ODD PARITY GENERATED ON THE DATA BITS DESIGNATED BY X. I.E. C₁ IS f(1,3,5,7,9,... 29,31). C₃₂ IS f(8 THRU 31). THE EXCEPTION IS C_T, WHICH IS THE RESULT OF EVEN PARITY.

- SYNDROME BITS (S₁ ETC.) ARE FORMED BY A COMPARISON OF THE CHECK BITS READ FROM MEMORY AND THE NEW CHECK BITS GENERATED ON THE DATA READ FROM MEMORY.
- A SINGLE ERROR WILL CAUSE AN ODD NUMBER OF SYNDROME BITS TO GO HIGH
 E.G. IF BIT 1 FAILS S₁, S₈ & S₁₆ WILL GO HIGH.
 IF BIT 15 FAILS S₁, S₂, S₄, S₈ & S₃₂ WILL GO HIGH.

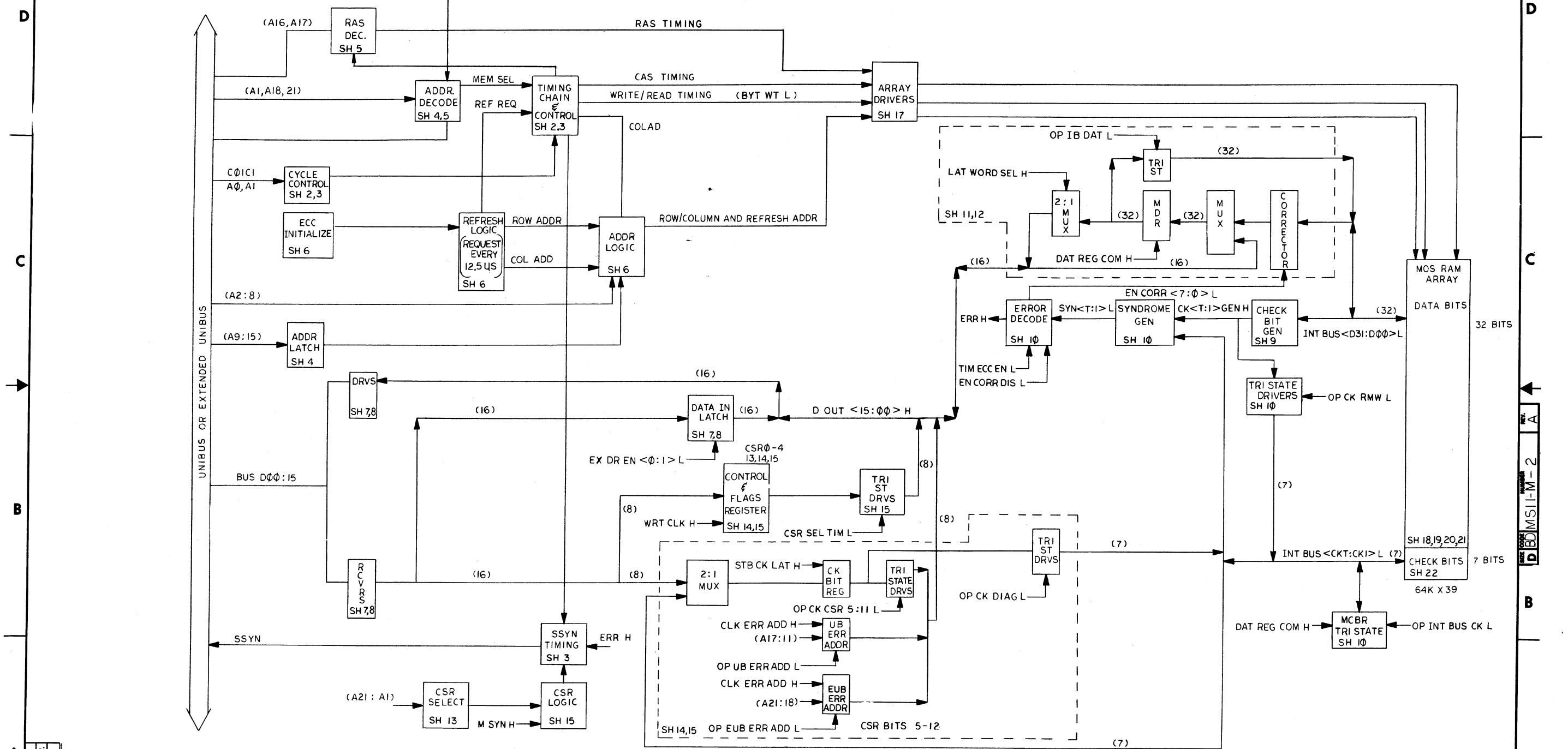
A DOUBLE ERROR WILL CAUSE AN EVEN NUMBER OF SYNDROME BITS TO GO HIGH.
 E.G. IF BITS 0 & 1 FAIL S₁ & S_T WILL GO HIGH, BUT S₈ & S₁₆ WILL NOT SINCE C₈ & C₁₆ ARE COMMON TO BITS 0 & 1 AND THE PARITY REMAINS UNCHANGED.



REVISIONS	REV.
CHANGE NO.	A
INT. RELEASE	
CHK	

QUANTITY & VARIATION	DESCRIPTION	DWG./PART NO.	ITEM NO.
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
	ANGLES ± 0° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES
	SURFACE QUALITY IN	MEDIUM <input type="checkbox"/>	OVER 0 TO 0.2 ±.004
	MICROINCHES	PREFERRED <input type="checkbox"/>	OVER 0.2 TO 1.2 ±.008
			OVER 1.2 TO 4.0 ±.012
			OVER 4.0 TO 12.0 ±.016
			OVER 12.0 TO 40.0 ±.024
			OVER 40.0 TO 80.0 ±.04
			OVER 80.0 TO 160.0 ±.063
			OVER 160.0 TO 320.0 ±.1
THIRD ANGLE PROJECTION	DRN. <i>Pegannon</i> 12-22-78	FIRST USED ON	11/44 digital
REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D <i>John Dierpach</i> 12-20-79	TITLE	MSII-M
DO NOT SCALE DWG	ENG. <i>J.B. Martin</i> 12-14-79		ERROR CHECK CODE
	PROD. ENG. <i>J. Martin</i> 12-19-79		
	PROD. <i>B. Schaff</i> 1/9/80		
	NEXT HIGHER ASSY.		
MATERIAL	B-DD-MSII-M	SIZE CODE	B BS
FINISH		NUMBER	MSII-M-7
	SCALE	REV.	A
	SHEET	DIST.	

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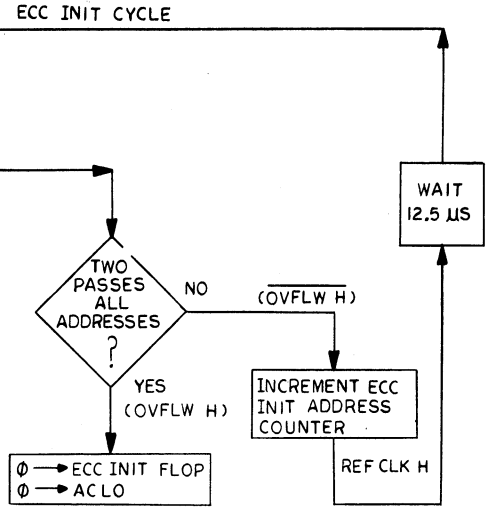
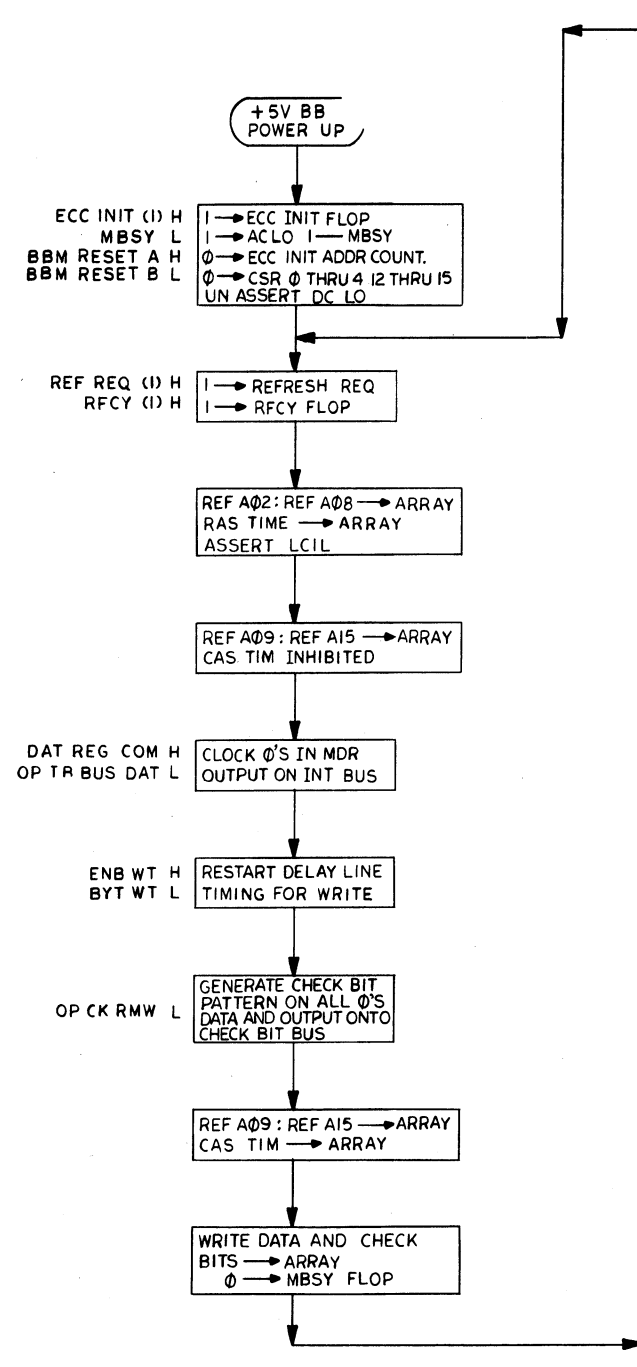
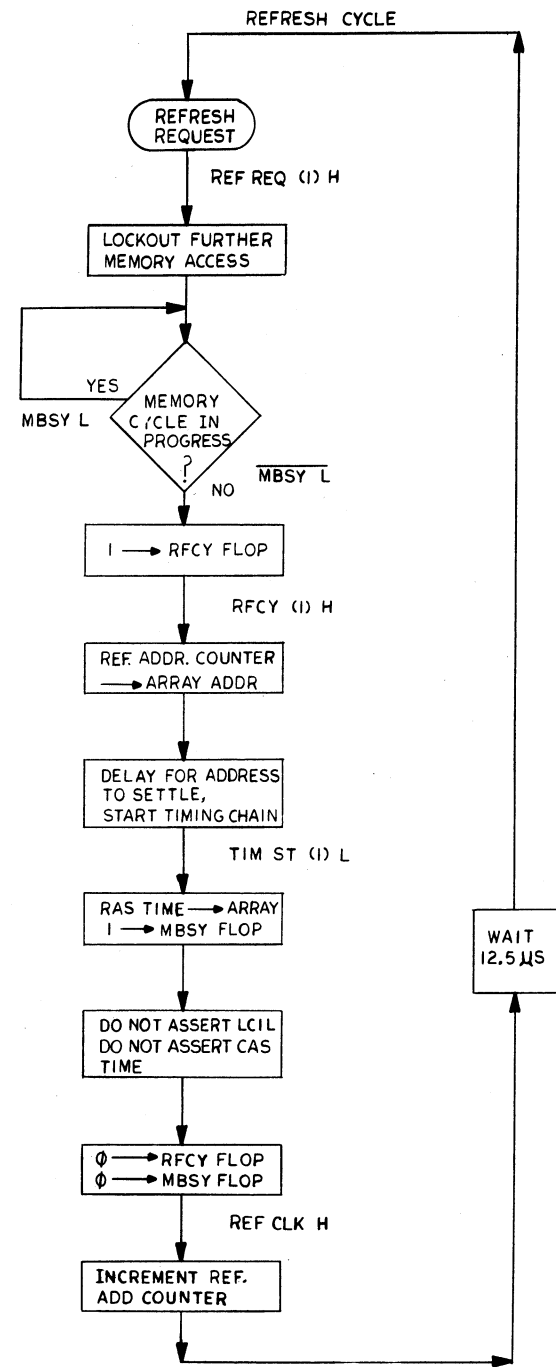


REV. A	INT-RELEASE	CHANGE NO.	1
REV. A	INT-RELEASE	CHANGE NO.	1

DRN. (Boj Jensen) 12-21-78	FIRST USED ON 11/44	digital
CHK'D BY (Boj Jensen) 12-18-78	TITLE MS11-M BLOCK DIAGRAM	
ENG. (Boj Jensen) 12-19-78		
PROD. ENG. (Boj Jensen) 12-19-78		
PROD. (Boj Jensen) 1/17/80		
NEXT HIGHER ASSY.		
B-DD-MS11-M	SIZE CODE D BD	NUMBER MS11-M-2
SCALE + +		REV. A
SHEET 1	OF 1	DIST.

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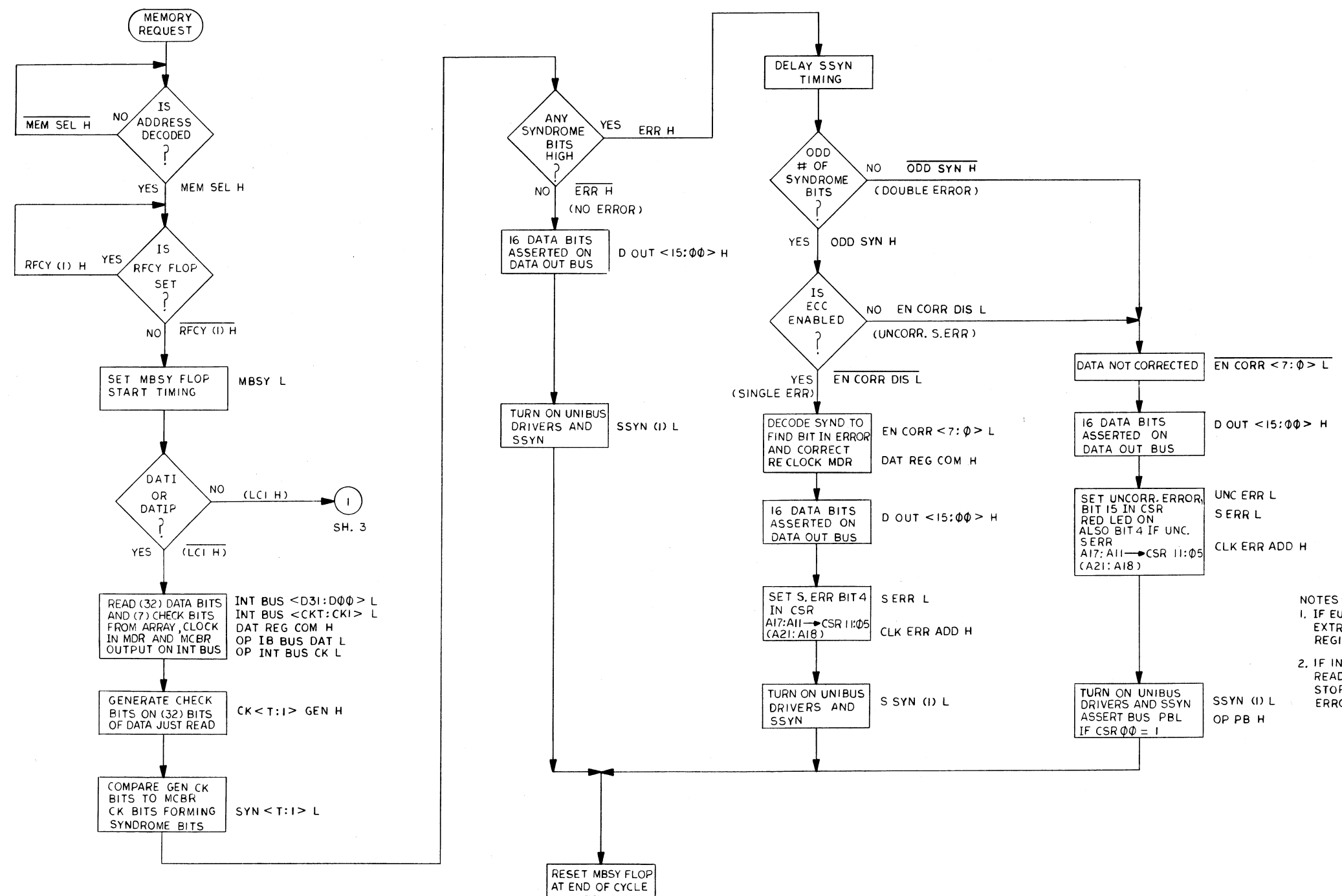
REV. 2
 MS11-M-3
 2



REV. A	INT. RELEASE
CHANGE NO.	
REVISIONS	

DRN. <i>12-27-78</i>	12-27-78	FIRST USED ON	11/44	digital
CHK'D BY <i>12-19-78</i>	12-19-78	TITLE	MS11-M FLOW DIAGRAM	
ENG. <i>12-19-78</i>	12-19-78	PROD. ENG. <i>12-19-78</i>	12-19-78	
PROD. <i>11/1/80</i>	11/1/80	NEXT HIGHER ASSY.		
B-DD-MS11-M	SIZE CODE	NUMBER	REV.	
SCALE	D	FD	MS11-M-3	A
SHEET 1	OF 4	DIST.		

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NOTES:
 1. IF EUB ON ERROR A21:11 -> CSR 11:05 EXTRA 4 BITS STORED IN BACKUP REGISTER.
 2. IF IN DIAG CK MODE CHECK BITS READ FROM ARRAY ARE ALWAYS STORED IN CSR <5:11> WHETHER ERROR OCCURS OR NOT

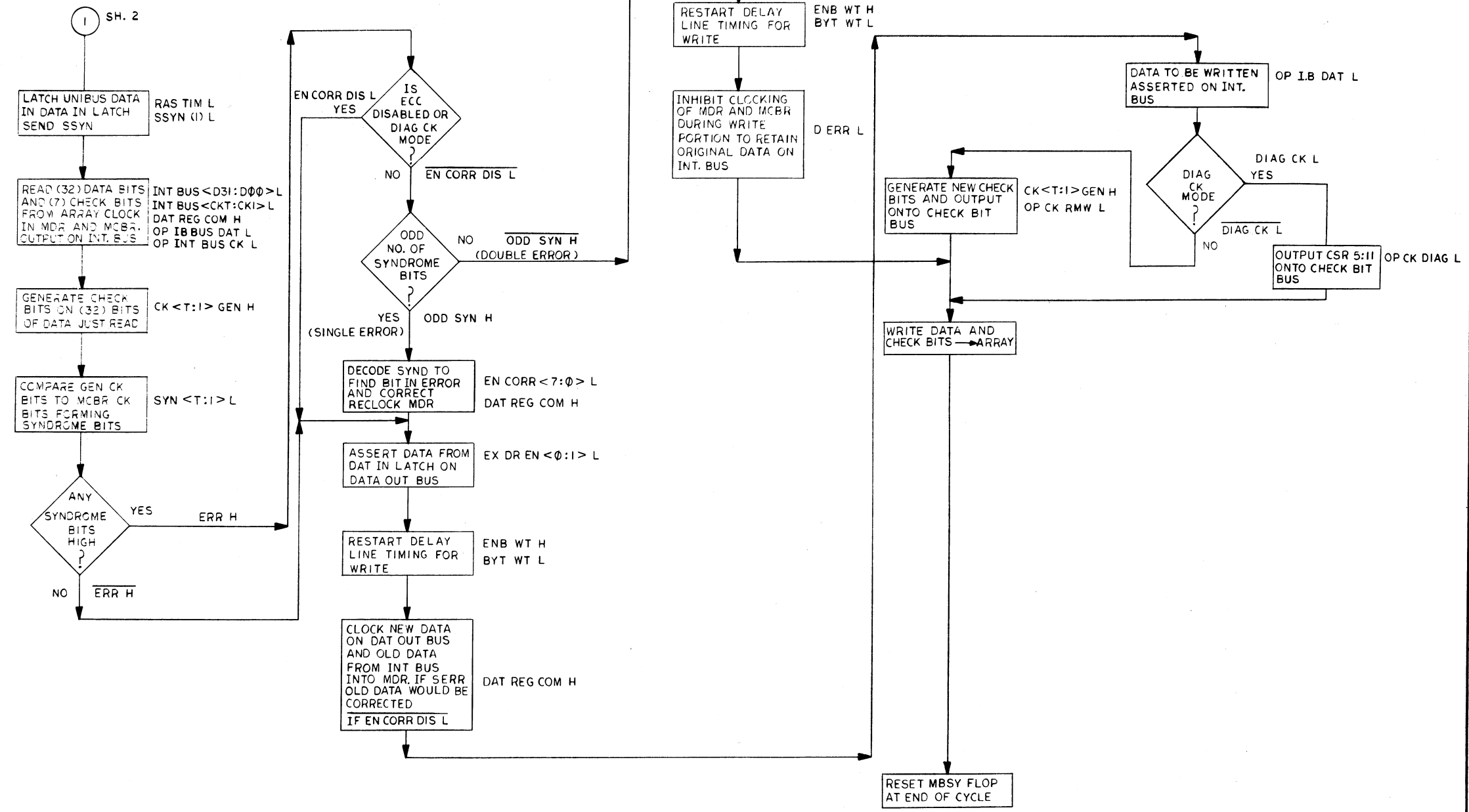
REVISIONS		
CHK	CHANGE NO.	REV.

(DATI, DATIP CYCLE)		TITLE	SIZE CODE	NUMBER	REV.
		MSII-M FLOW DIAGRAM	DFD	MSII-M-3	A
		SCALE	SHEET 2 OF 4	DIST.	

REV. A
NUMBER DFD MSII-M-3

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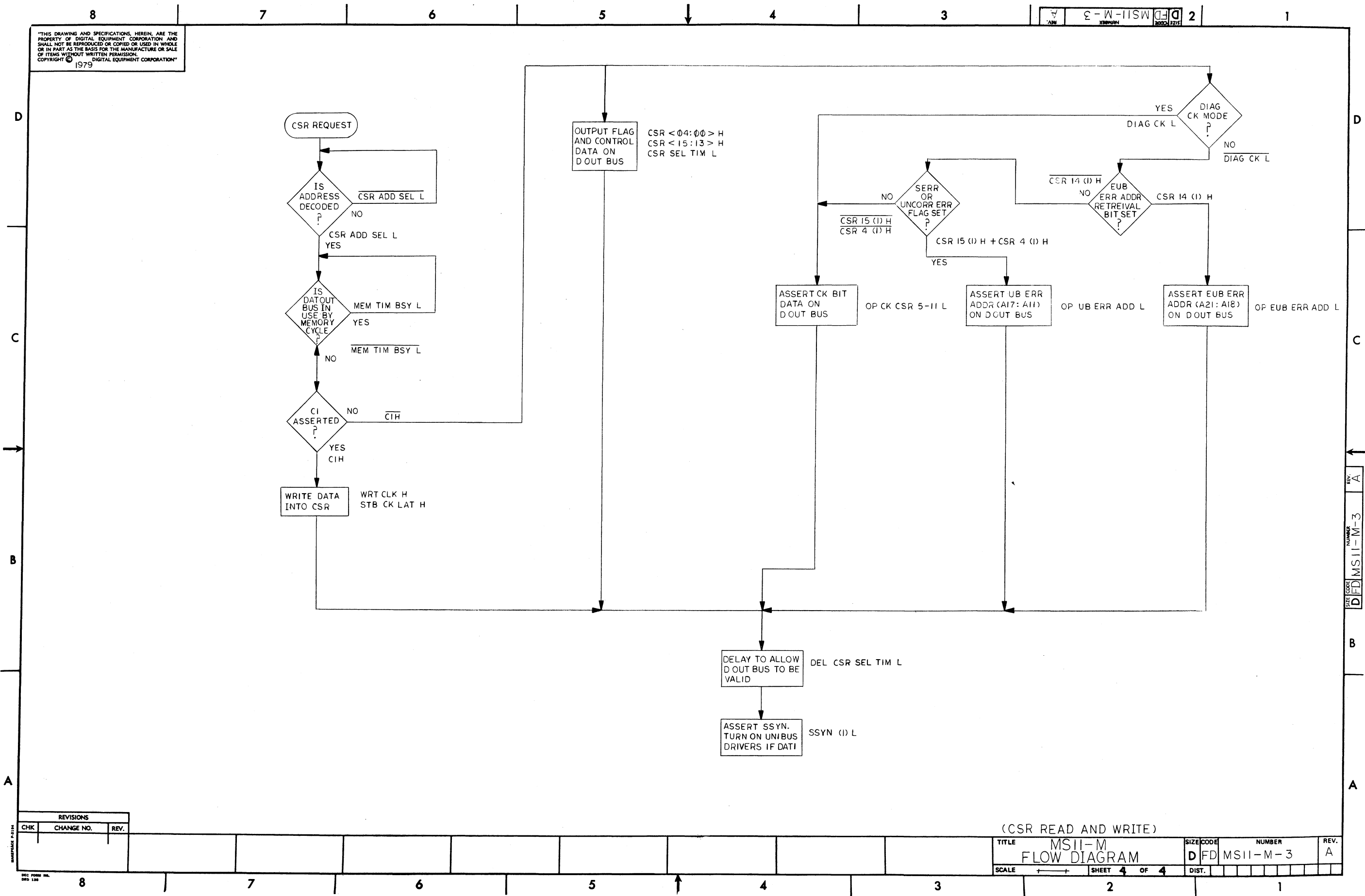
REV. A
 SIZE CODE DFD
 NUMBER MS11-M-3
 SHEET 3 OF 4



REVISIONS		
CHK	CHANGE NO.	REV.

(DATO, DATOB CYCLE)		TITLE	SIZE CODE	NUMBER	REV.
		MS11-M FLOW DIAGRAM	DFD	MS11-M-3	A
SCALE	SHEET 3 OF 4	DIST.			

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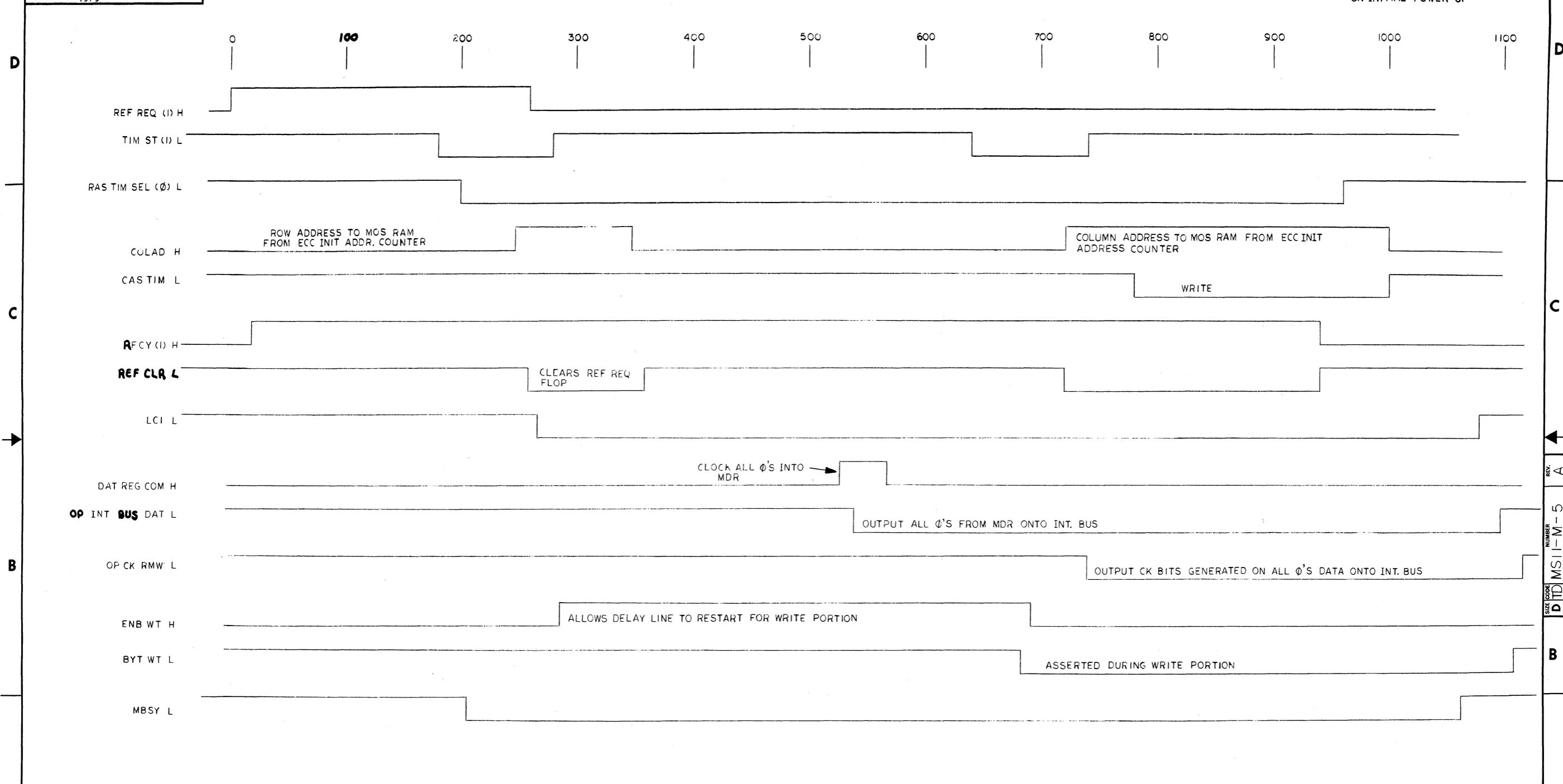


REVISIONS		
CHK	CHANGE NO.	REV.

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NOTE:
WRITE ALL 0'S DATA WITH CORRECT CHECK BITS THROUGHOUT MEMORY ON INITIAL POWER UP

ECC INIT CYCLE



DRN. 1-28-79		FIRST USED ON 11/44	
CHK'D 12-14-79		digital	
ENG. 11-14-79		TITLE MS11-M TIMING DIAGRAM	
PROD. ENG. 12-14-79		NEXT HIGHER ASSY. E-OP-MS11-M	
PROD. 1-9-80		SCALE + +	
SHEET 1 OF 4		SIZE CODE D TD	
		NUMBER MS11-M-5	
		REV. A	

REV. A	INT. RELEASE	CHANGE NO.	CHK

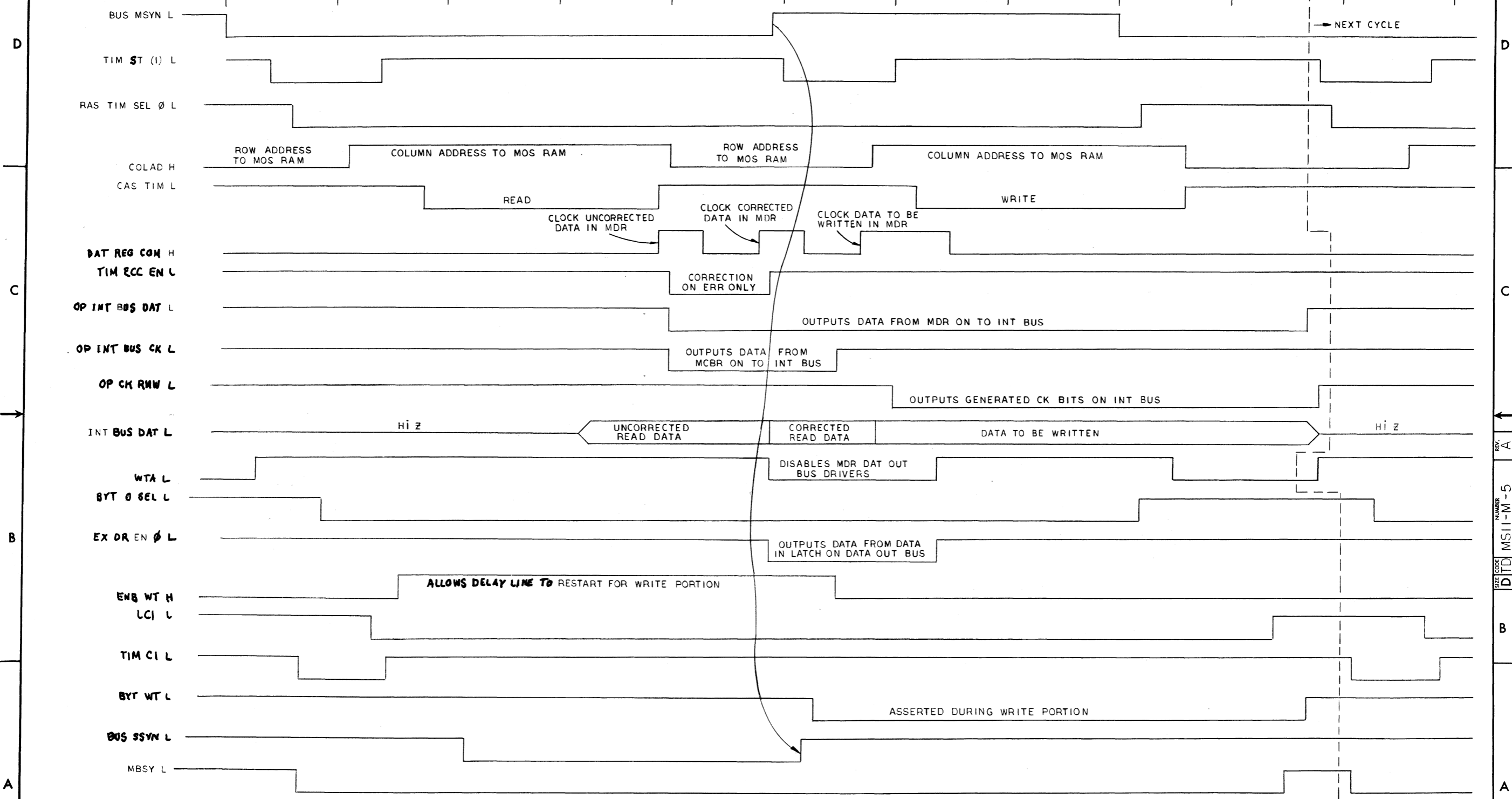
REV. A
NUMBER MS11-M-5
SIZE CODE D TD

DEC FORM NO. 102

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READ MODIFY WRITE CYCLE

0 100 200 300 400 500 600 700 800 900 1000 1100

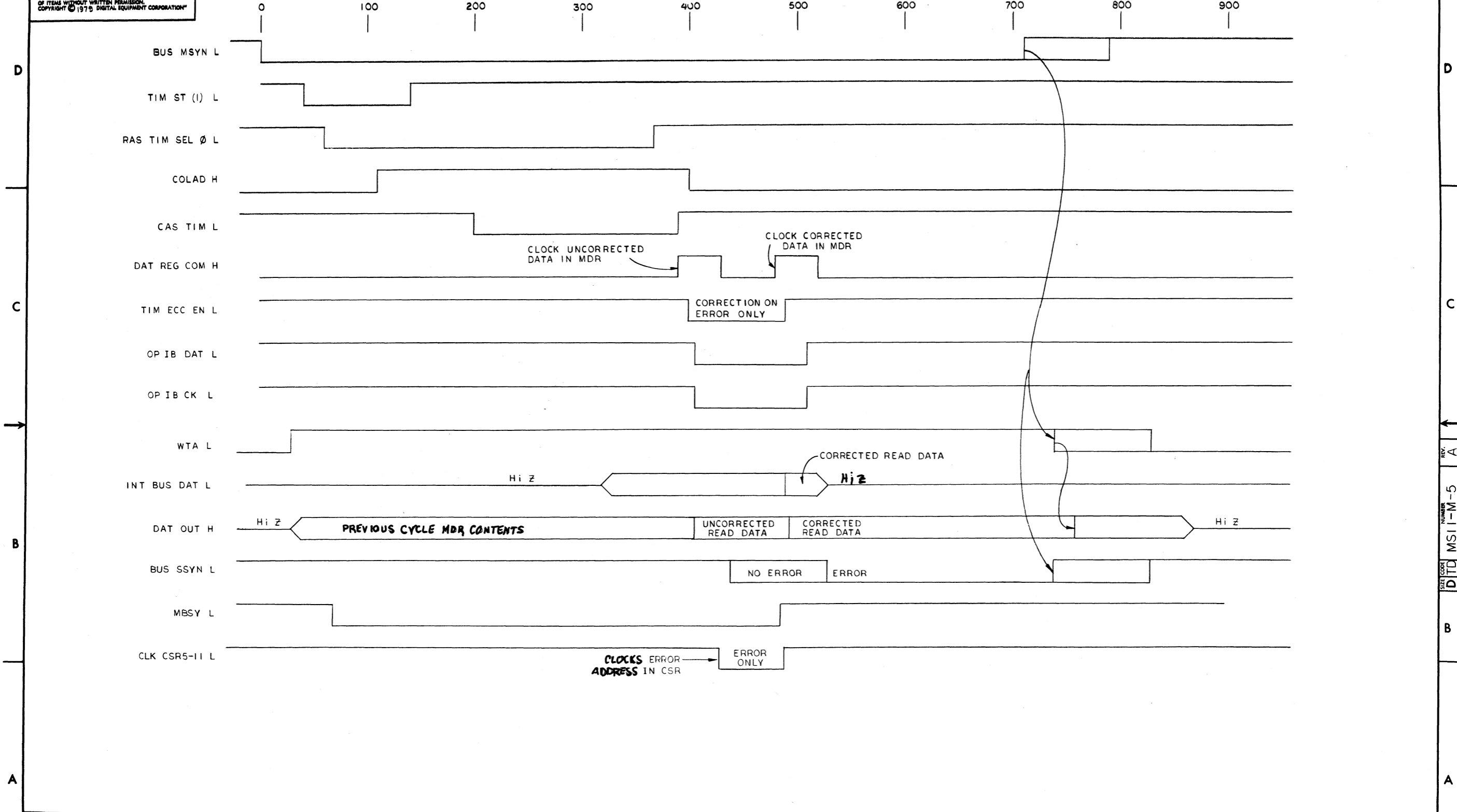


REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM 138 FEB 1974

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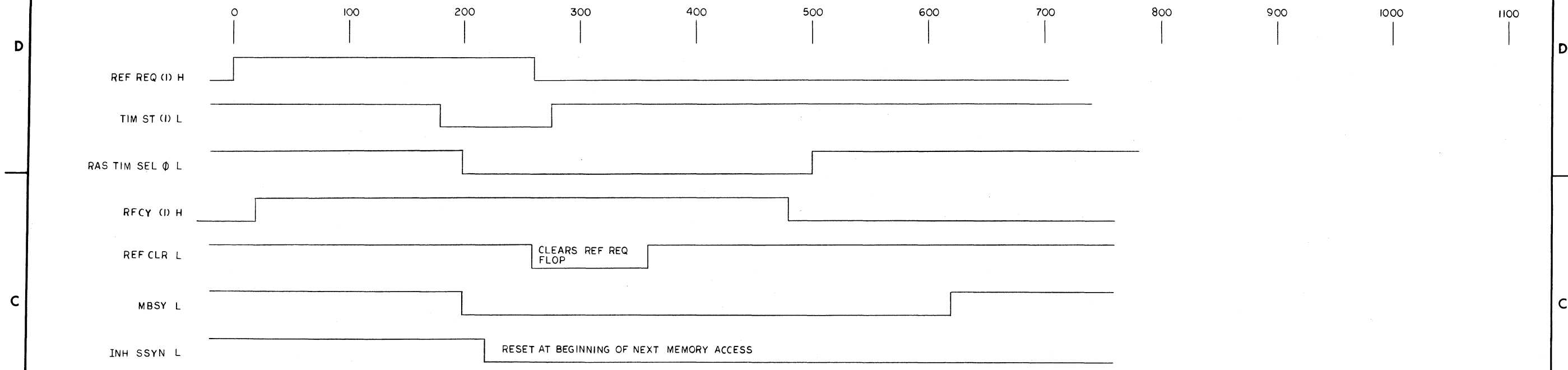
READ CYCLE



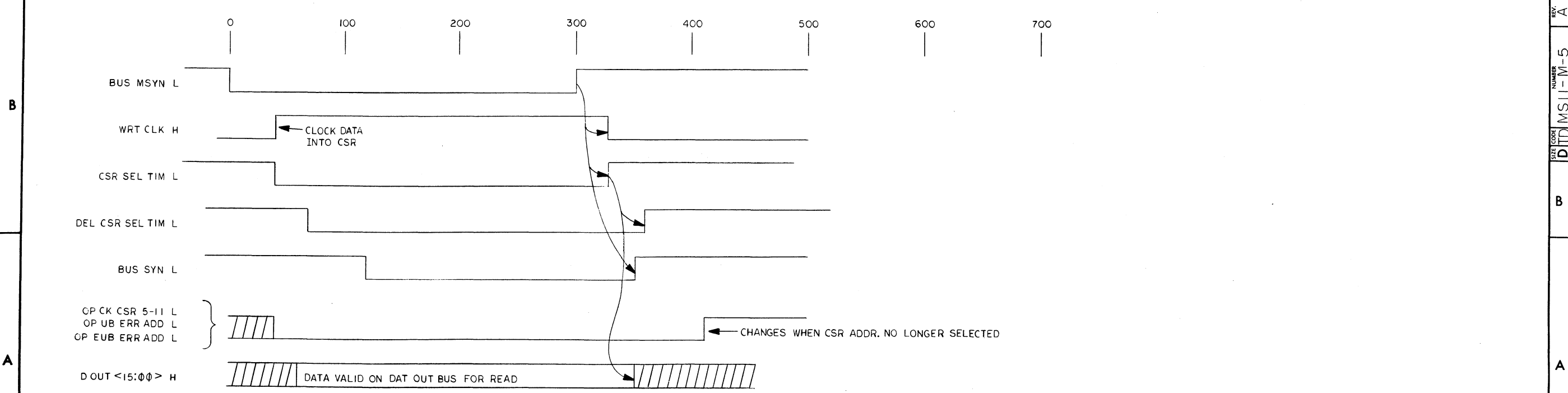
REVISIONS		
CHK	CHANGE NO.	REV.

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REFRESH CYCLE



CSR READ AND WRITE



REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM 130 8

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS																		
				A	B	C	D	E	F	G	H	I	J	K	L							
B-DD-M8722-0	1		ECC MOS MEMORY	A	B	C																
D-UA-M8722-0-0	9		ECC MOS MEMORY	B	C	D																
D-CS-M8722-0-1	22		ECC MOS MEMORY	B	C	D																
D-MD-5013505-0-0	5		DRILL & ETCH DRAWING	B	B	B																
		5013505	ETCHED BOARD	C	C	C																
K-PC-M8722-0-DBC	-		P.C. DESIGN DATA BASE (M8722)	A	A	A																
K-PL-M8722-BA-DBP	-		PARTS LIST DATA BASE (Z0472)	B	B	B																
K-PL-M8722-AA-DBP	-		PARTS LIST DATA BASE (Z0471)	B	B	B																

NOTES:

DATE	CHG NO.	REV.	ORIG	REVISIONS																		
				A	B	C	D	E	F	G	H	I	J	K	L							
3-24	ML001		A																			
4-30	ML002		B																			

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USED ON OPTION/MODEL 11/44	DRN. P. BOSSMAN	10JAN 79	TITLE ECC MOS MEMORY
	CHK'D P. Bossman	12 JAN 79	
	ENG. J. L. Martin	19 DEC 79	SIZE CODE NUMBER B DD M8722-0
	PRD. Bob Schaefer	1/9/80	REV. C

SHEET 1 OF 1

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION			REFERENCE DESIGNATOR
					BB	BC	BF	
1	1		5013505-00	128K ECC UNIBUS MEM ETCH CIR. BD	1	1	1	
2	2		1012219-00	47. MFD 30V 6% 600D AL EL	2	2	2	C400,C401
3	3		1012121-00	220.0 MMF 100V 1%200PPM DM15S	4	4	4	C1,C3,C4,C7
4	4		1001610-00	.01 MFD 50V -20+80 Z5U AXIAL	33	33	33	C2,C111-C131,C220-C230
5	5		1012084-01	8 MFD 25V 6% 30D AL EL	5	5	5	C100-C103,C200
6	6		1010279-01	.47 MFD 25V 20% 2C023 CER.	101	101	101	C210-C214,C310-C357,C410-C457
7	7		1110994-00	1N 751A VZ= 5.1 5% .40W	1	1	1	D5
8	8		1109991-00	1N 754A VZ= 6.8 5% .40W	1	1	1	D4
9	9		1104860-00	*** THIS ITEM IS NOT USED ***	-	-	-	
10	10		1110324-00	LED 1MCD@10MA FIV=3	1	1	1	D2
11	11		1114384-00	LED 105MW 35MA GREEN	1	1	1	D3
12	12		1210711-02	HANDLE,MODULE,HEX	1	1	1	
13	13		1211164-04	SW,DIP 1P 1A 8POS	1	1	1	E46
14	14		1211164-00	SW,DIP 1P 1A 4POS	1	1	1	E61
15	15		1302124-00	18.0 .25 W 5.0 % CC	2	2	2	R7,R31
16	16		1301890-00	560.0 .25 W 5.0 % CC	1	1	1	R2
17	17		1304863-00	316 1/4W 1% RN55D-F 100PPM	2	2	2	R11,R12
18	18		1301424-00	*** THIS ITEM IS NOT USED ***	-	-	-	
19	19		1300447-00	4.70 K .25 W 5.0 % CC	11	11	11	R10,R13,R14,R18-R20,R22-R24,E26, R30
20	20		1300316-00	470.0 .25 W 5.0 % CC	1	1	1	R21
21	21		1300365-00	1.0 K .25 W 5.0 % CC	1	1	1	R15
22	22		1300309-00	*** THIS ITEM IS NOT USED ***	-	-	-	
23	23		1300229-00	100.0 .25 W 5.0 % CC	1	1	1	R5
24	24		1301972-00	270.0 .25 W 5.0 % CC	2	2	2	R27,R28
25	25		1300202-00	47.0 .25 W 5.0 % CC	1	1	1	R29
26	26		1300444-00	3.90 K .25 W 5.0 % CC	1	1	1	R4
27	27		1311594-00	30.1 K 1/4W 1% RN55D-F 100PPM	1	1	1	R6
28	28		1315339-00	R NETWORK 4-5K 5.0 % 5PIN	3	3	3	R100-R102
29	29		1316187-00	R NETWORK 3-18 5.0 % 6PIN	8	8	8	R200-R207

REVISION HISTORY		BASIC PART NO: M8722		DRN: J.LIZOTTE		DATE: 14-DEC-78		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D				TITLE	PARTS LIST
	INITIAL	B	SECTION, VARIATION INDEX		D. CARUSSO		14-DEC-78		ECC MOS MEMORY
			[A] BB, BC, BF						
			[B]						
			[C]		J. MANTON		14-DEC-78		
			[D]						
			[E]						
			[F]		J. MANTON		14-DEC-78		DOCUMENT NUMBER
			[G]						
			[H]						
			[J]						
			[K]		R. SCHAAF		14-DEC-78	K	PL M8722-BA-DBP
			[L]						
			[M]						
			[N]						
					ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:
					D-UA-M8722-0-0				Z0472B.PLS
									EDIT #
									3

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LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION			REFERENCE DESIGNATOR
					BB	BC	BF	
30	30		1316186-00	R NETWORK 1-12 2-18 6PIN	8	8	8	R300-R307
31	31		1613120-00	DELAY= 200NS,10TAPS	2	2	2	E5,E21
32	32		1910532-00	74S00 NAND GATE-QUAD 2IN	1	1	1	E31
33	33		1912799-00	LS00 NAND-GATE-QUAD 2IN,P	1	1	1	E25
34	34		1912388-00	74S02 NOR GATE-QUAD 2IN,PO	1	1	1	E42
35	35		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	1	1	1	E38
36	36		1910533-00	74S03 NAND GATE-QUAD 2IN,O	1	1	1	E22
37	37		1909705-00	DEC 8881 NAND GATE-QUAD 2IN O	1	1	1	E27
38	38		1914451-00	74LS393 COUNTER,BINARY,4BIT	2	2	2	E54,E56
39	39		1910547-00	74S153 MUX 1 OF 4 (DUAL)	5	5	5	E40,E41,E47,E49,E53
40	40		1911944-00	555CN TIMER,FUNCT,BLOCK	1	1	1	E11
41	41		1910534-00	74S04 INVERTER GATE-HEX 1I	1	1	1	E60
42	42		1910544-01	74S74-60GG-D DUAL,EDGE TRIG	1	1	1	E26
43	43		1912824-00	LS74 FF-D DUAL,EDGE TRIGG	2	2	2	E15,E43
44	44		1911116-00	DEC 8837 RECEIVER,BUS,HEX,UN	4	4	4	E23,E32,E44,E50
45	45		1915219-00	LS373 FF-D OCTAL-TRANSFARE	3	3	3	E3,E18,E39
46	46		1914214-00	LS374 FF-D OCTAL EDGE TRIG	3	3	3	E7,E28,E68
47	47		1911579-00	8641 TRANSCEIVER,BUS,QUA	4	4	4	E1,E6,E12,E17
48	48		1910539-00	74S20 NAND GATE-DUAL 4INPU	1	1	1	E37
49	49		1912828-00	LS85 COMPARATOR,4BIT MAGN	1	1	1	E65
50	50		1912697-00	LS174 FF-D HEX W/CLEAR	1	1	1	E8
51	51		1915193-00	LS244 DRIVER,LINE,OCTAL,T	1	1	1	E14
52	52		1911573-00	74S280 PARITY GEN/CHKR,9BIT	11	11	11	E48,E66,E69,E71,E72,E75,E78, CONT E81-E84
53	53		1912096-00	DEC 74S86 XOR GATE,QUAD 2IN	2	2	2	E36,E64
54	54		1914086-00	74S30 NAND GATE-POS 8IN	1	1	1	E55
55	55		1913777-00	LS240 DRIVER,LINE,OCTAL,T	1	1	1	E9
56	56		1912389-00	74S08 AND GATE-QUAD 2IN,PO	1	1	1	E24
57	57		1912125-00	74S135 XOR/NOR GATE-QUAD 2I	1	1	1	E59
58	58		1913493-00	74S241 OCTAL BUFFER,TRI-STA	5	5	5	E70,E76,E77,E79,E80
59	59		2113825-01	16K MOS RAM 200NS 1	156	-	-	E100-E138,E200-E238,E300-E338, CONT E400-E438
60	60		23259F1-00	F1-01	1	1	1	E34
61	61		23001J5-00	J5-01	1	1	1	E10
62	62		23002J5-00	J5-01	1	1	1	E19
63	63		23003J5-00	J5-01	1	1	1	E4
64	64		23004J5-00	J5-01	1	1	1	E30
65	65		23005J5-00	J5-01	1	1	1	E35
66	66		23006J5-00	J5-01	1	1	1	E33
67	67		23007J5-00	J5-01	1	1	1	E20
68	68		23008J5-00	J5-01	1	1	1	E29
69	69		23009J5-00	J5-01	1	1	1	E52
70	70		23001K3-00	K3-01	8	8	8	E45,E51,E57,E58,E62,E63,E67,E73
71	71		23002K3-00	K3-01	2	2	2	E2,E13
72	72		9009185-00	*** THIS ITEM IS NOT USED ***	-	-	-	
73	73		9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12	12	12	
74	74		9009149-00	PIN, STAKING, P.C. BOARD, .025 X	2	2	2	TP1,TP2
75	75		2114408-01	16K MOS RAM 200NS 1	-	156	-	E100-E138,E200-E238,E300-E338,

! D !	! I !	! G !	! I !	! T !	! A !	! L !	! TITLE	! SECTION A	! OF A	! !	! SIZE !	! CODE !	! DOCUMENT NUMBER	! REV !
!	!	!	!	!	!	!	ECC MOS MEMORY	!	!	!	!	!	M8722-BA-DBP	!
!	!	!	!	!	!	!		!	!	!	!	!		!
!	!	!	!	!	!	!		!	!	!	!	!		!

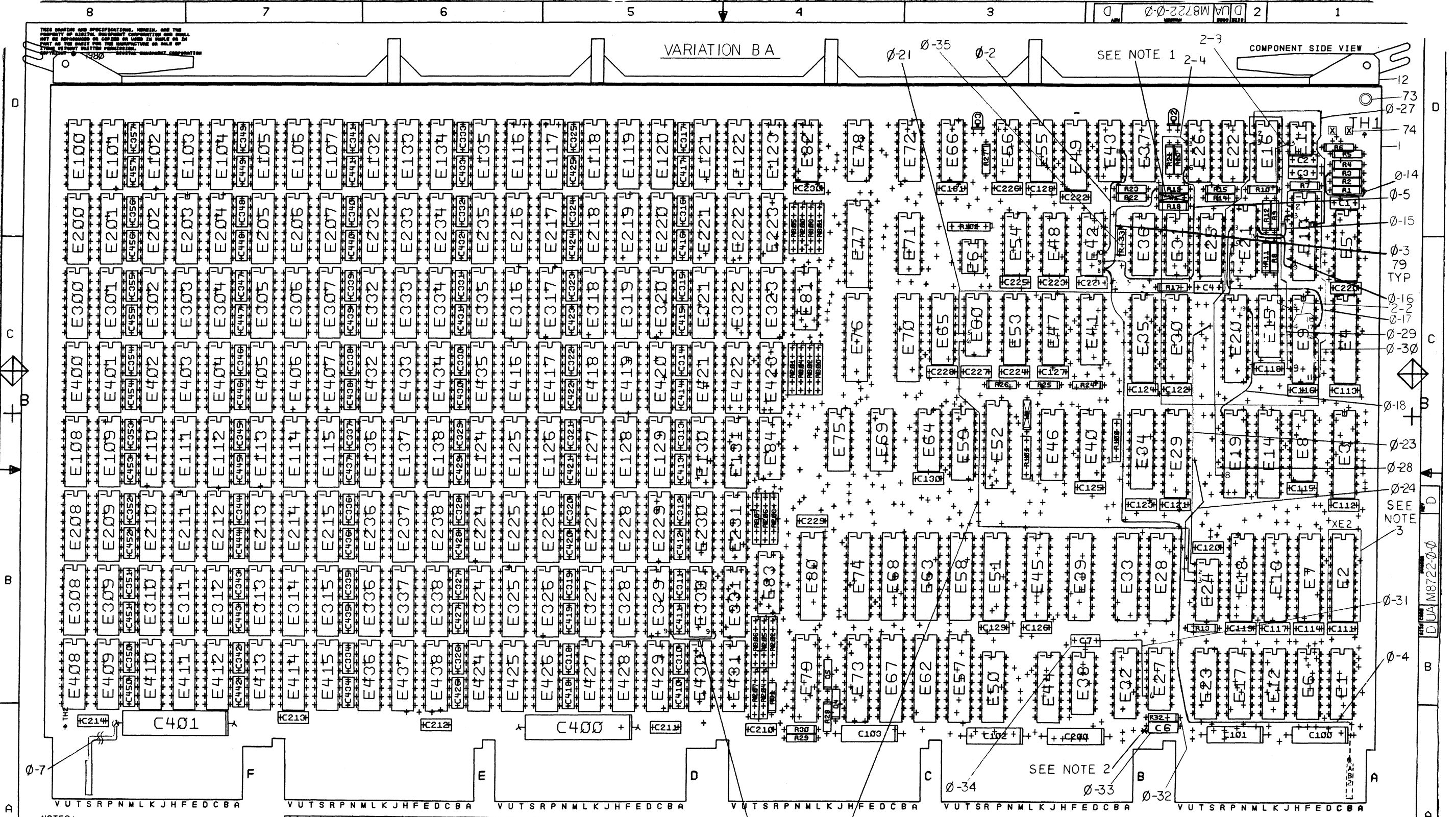
LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION			REFERENCE DESIGNATOR
					BB	BC	BF	
								CONT E400-E438
76	76		2114695-01	*** THIS ITEM IS NOT USED ***	-	-	-	
77	77		2114927-01	*** THIS ITEM IS NOT USED ***	-	-	-	
78	78		2114897-01	16K MOS RAM 200NS 1	-	-	156	E100-E138,E200-E238,E300-E338,
								CONT E400-E438
79	79		9105740-55	WIRE(WRAP)30AWG UL1423	A/R	A/R	A/R	
80	80	B-DD-M8722-0-0		DWG DIRECTORY	REF	REF	REF	
81	81	D-UA-M8722-0-0		UNIT ASSY	REF	REF	REF	
82	82	D-MD-5013505-0-0		DRILL & ETCH DWG	REF	REF	REF	
83	83	D-CS-M8722-0-1		CIRCUIT SCHEMATIC	REF	REF	REF	
84	84		9107256-09	*** THIS ITEM IS NOT USED ***	-	-	-	
85	85		1000064-00	3.9MFD 10V 10% 150D S.TA	1	1	1	C6
86	86		1302956-00	196 1/4W 1% RN55D-F 100PPM	1	1	1	R3
87	87		1302858-00	100 1/4W 1% RN55D-F 100PPM	2	2	2	R17,R25
88	88		1313583-00	150 1/4W 1% RN55D-F 100PPM	2	2	2	R1,R33
89	89		1303047-00	464 1/4W 1% RN55D-F 100PPM	2	2	2	R8,R9
90	90		1913462-00	74S240 OCTAL BUFFER,INVERTI	1	1	1	E74
91	91		1309418-00	24.3 K 1/4W 1% RN55D-F 100PPM	1	1	1	R32
92	92		1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	1	1	1	E16
93	93	SEE NOTE 4	1215006-04	SOCKET 20PIN IC LOW PROFILE	19	19	19	XE2,XE4,XE10,XE13,XE19,XE20,
								CONT XE29,XE30,XE33,XE35,XE45,XE51,
								CONT XE52,XE57,XE58,XE62,XE63,XE67,
								CONT XE73

- 94 NOTE: 0 M8722-BA IS THE PRIMARY VARIATION OF THE 128K X 16 BITS SYSTEM (NOT A MODULE TYPE).
 95 NOTE: 1 M8722-BB IS A MODULE TYPE USING MOSTEK 16K MOS DEVICES.
 96 NOTE: 2 M8722-BC IS A MODULE TYPE USING FUJITSU 16K MOS DEVICES.
 97 NOTE: 3 M8722-BF IS A MODULE TYPE USING HITACHI MOS DEVICES.
 98 NOTE: 4 AMP VENDOR ONLY (640894-1).

! D ! I ! G ! I ! T ! A ! L !	! TITLE	! SECTION A OF A	! SIZE ! CODE !	! DOCUMENT NUMBER	! REV !
! ! ! ! ! ! ! !	ECC MOS MEMORY	! ! ! ! !	! ! ! ! !	M8722-BA-DBP	! B !
! ! ! ! ! ! ! !	! ! ! ! !	! ! ! ! !	! ! ! ! !	! ! ! ! !	! ! ! ! !

VARIATION BA

COMPONENT SIDE VIEW



NOTES:
 1. A. W/IN FOR UNIBUS CONFIGURATION.
 B. W/OUT FOR EXTENDED UNIBUS CONFIGURATION.
 2. *INDICATES PLUS END OF C6.
 3. 20 PIN SOCKET = XE2, XE4, XE10, XE13, XE19, XE20, XE29, XE30, XE33, XE35, XE45, XE51, XE52, XE57, XE58, XE62, XE63, XE67, XE73.

CHG	NO	REV	DATE	BY	APP
1	1	1	12/14/78	J. MANTON	
2	1	2	1/16/79	J. MANTON	
3	1	3	1/16/79	J. MANTON	

4. SEE SHEET 2 FOR WIRE ADDS

ETCH C	PC DESIGN DATA BASE REV. CL/CM
--------	--------------------------------

SIGNATURES		DATE	digital
DRN.		12-14-78	
CHK'D.		1/16/79	TITLE ECC MOS MEMORY
ENG.		1/16/79	
PROD.		1/16/79	SIZE CODE NUMBER REV D UA M8722-0-0 D
SCALE	2/1		
SHT.	1 OF 9		ETCH REV. C
NEXT HIGHER ASSY. BDD-M8722-0			

1980

LAYER 1
M8722 5013505 C



2 DUA M8722-0-0 B

0-20

A-3 Z-0

CS*ABCDEFGHIJKLMNPRS
E101 E102 E103

E132 E133

E118 E119

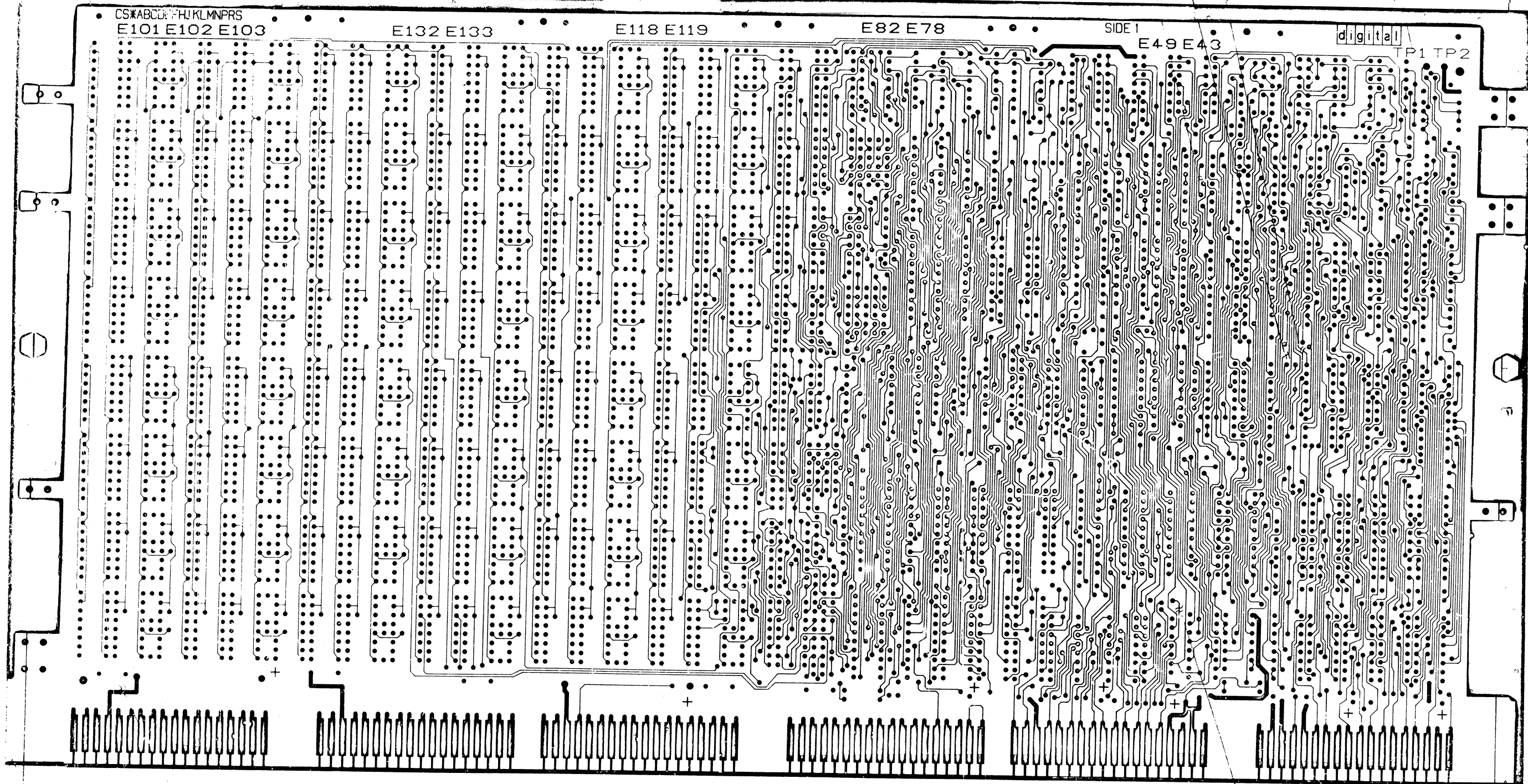
E82 E78

SIDE 1

E49 E43

digital

TP1 TP2



REVISIONS
CHANGE NO. REV. 0-7

0-26

ECC MOS MEMORY		DUA	M8722-0-0	D
SCALE 2/1	SHEET 5 OF 9			

2

7

6

5

4

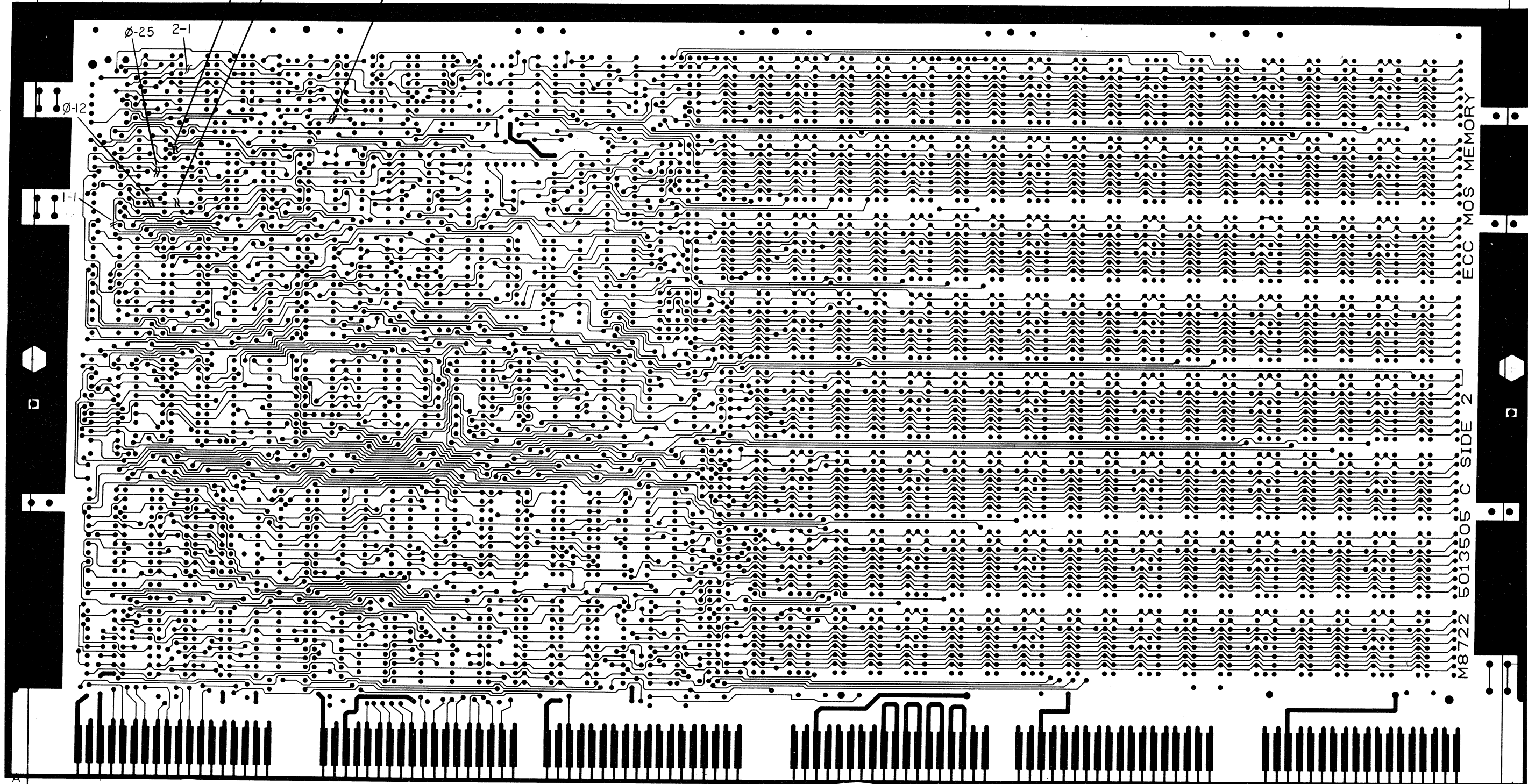
3

2

1

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L4 H 834AJ



REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE CODE	NUMBER	REV.
ECC MOS MEMORY	D UA	M8722-0-0	D
SCALE 2/1	SHEET 8	OF 9	DIST.

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M8722

FIRST RELEASE

ETCH CUT - SIDE 2:

- # - 1. CUT ETCH BETWEEN E43-11 AND R19 (TO THE LEFT OF THE FEED THRU).
- # - 11. CUT ETCH BETWEEN E10-9 AND FEED THRU (RIGHT SIDE OF PIN).
- # - 12. CUT ETCH BETWEEN E10-9 AND FEED THRU (LEFT SIDE OF PIN, ISOLATING E10-9).
- # - 13. CUT ETCH BETWEEN E10-3 AND FEED THRU (RIGHT SIDE).
- # - 25. CUT ETCH BETWEEN E10-16 AND FEED THRU (RIGHT SIDE).

ETCH CUTS - SIDE 1:

- # - 7. CUT ETCH BETWEEN C401 AND FINGER FS1.
- # - 8. CUT ETCH BETWEEN R1 AND R3.
- # - 9. CUT ETCH BETWEEN THE 1ST AND 2ND FEED THRU E42-13 (RIGHT SIDE).
- # - 10. CUT ETCH BETWEEN E19-1 AND E20-3.
- # - 20. CUT ETCH BETWEEN THE FIRST AND SECOND FEED THRU OF E30-18 (RIGHT SIDE).
- # - 26. CUT ETCH NO MORE THAN 1/4" FROM C7 (220PF) (RIGHT SIDE) AS SHOWN.

WIRE ADDS:

- # - 2. ADD A WIRE FROM E42-10 TO E43-11.
- # - 3. ADD A WIRE FROM E42-8 TO R19 (LEFT SIDE).
- # - 4. ADD A WIRE FROM E42-8 THRU A FEED THRU TO FINGER AB2.
- # - 5. ADD A WIRE FROM E42-9 TO E26-6.
- # - 6. ADD A WIRE FROM E330-9 TO E329-9 FOR 'BA' VARIATIONS ONLY.
- # - 14. ADD WIRE FROM R1 TO R3 (AS SHOWN).
- # - 15. ADD WIRE FROM E10-3 TO E21-13.
- # - 16. ADD WIRE FROM E10-9 TO E21-14.
- # - 17. ADD WIRE FROM E9-17 TO E21-3.
- # - 18. ADD WIRE FROM E20-19 TO E19-1.
- # - 21. ADD WIRE FROM E80-5 TO E21-5.
- # - 22. ADD WIRE FROM E80-6 TO E24-2.
- # - 23. ADD WIRE FROM E24-1 TO FIRST FEED THRU OF E30-18 (AS SHOWN).
- # - 24. ADD WIRE FROM E24-3 TO SECOND FEED THRU OF E30-18 (AS SHOWN).
- # - 27. ADD WIRE FROM E16-1 TO E10-17.
- # - 28. ADD WIRE FROM E16-3 TO E19-8.
- # - 29. ADD WIRE FROM E16-2 TO E9-9.
- # - 30. ADD WIRE FROM E9-11 TO E10-2.
- # - 31. ADD WIRE FROM C7 (220PF) (RIGHT SIDE) TO E27-6.

REPLACEMENT COMPONENTS:

- # - 32. REPLACE D1 WITH R32, 24.3K, 1%
- # - 33. REPLACE R16 WITH C8, 3.9uF, 10V.
- # - 34. REPLACE C5 WITH C7, 220PF, 100V.

COMPONENT ADD:

- # - 35. ADD R33, 150 $\frac{1}{4}$ W, 1% AS SHOWN.

ECO # 1

ETCH CUT - SIDE 2

- 1-1 CUT ETCH BETWEEN E10-11 AND FEEDTHRU (RIGHT SIDE)

WIRE ADDS - SIDE 1

- 1-2 ADD WIRE FROM E24-11 TO E10-11
- 1-3 ADD WIRE FROM E24-12 TO E9-7
- 1-4 ADD WIRE FROM E24-13 TO E29-19

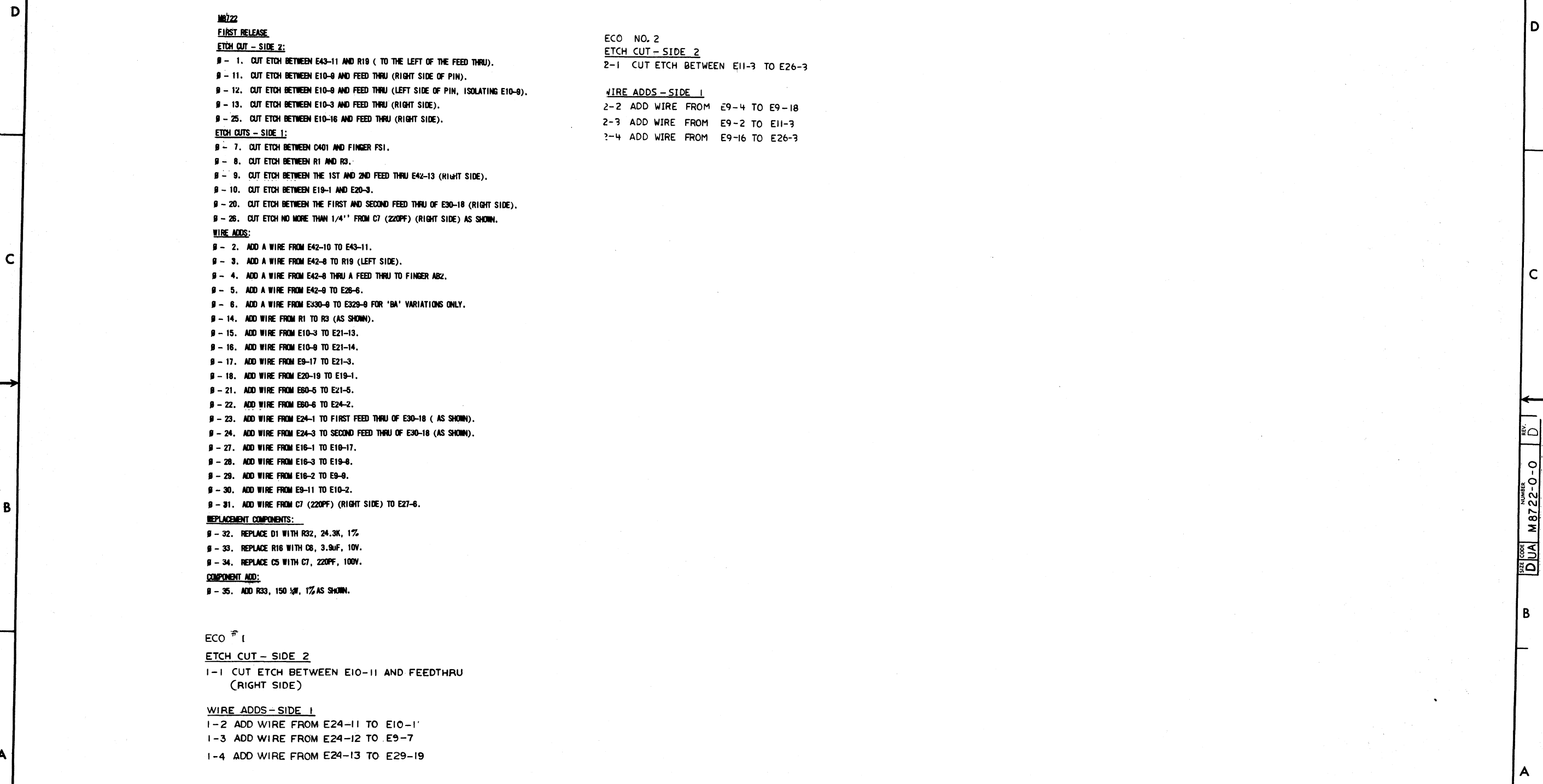
ECO NO. 2

ETCH CUT - SIDE 2

- 2-1 CUT ETCH BETWEEN E11-3 TO E26-3

WIRE ADDS - SIDE 1

- 2-2 ADD WIRE FROM E9-4 TO E9-18
- 2-3 ADD WIRE FROM E9-2 TO E11-3
- 2-4 ADD WIRE FROM E9-16 TO E26-3



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	ECC MOS MEMORY	SIZE CODE	D UA	NUMBER	M8722-0-0	REV.	D
SCALE	2/1	SHEET	9 OF 9	DIST.			

REV. D
 NUMBER M8722-0-0
 SIZE CODE DUA

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NOTES:

- SIGNAL NAMES WILL BE REFERENCED AS FOLLOWS:
 [X/Z] SIGNAL NAME [X/Z]
 NUMBER OF CONNECTION POINTS ON DESTINATION SHEET.
 DESTINATION SHEET NUMBER.
 NUMBER OF CONNECTION POINTS ON SOURCE SHEET.
 SOURCE SHEET NUMBER.

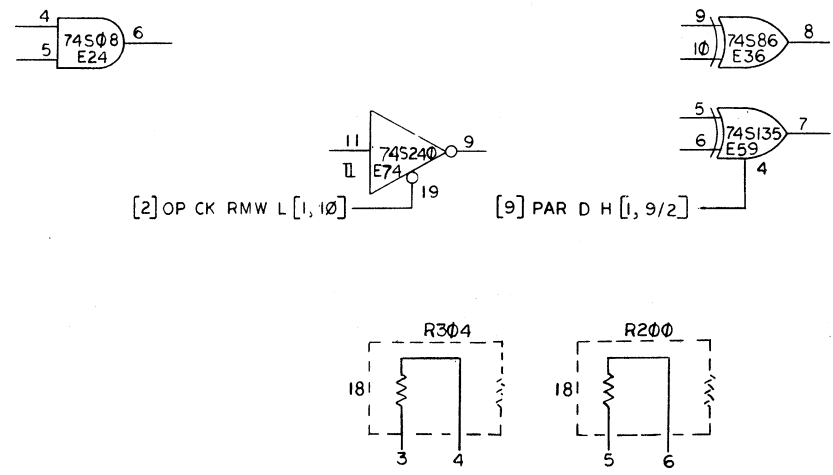
2. * INDICATES BATTERY BACKED UP.

3. GND AND +5V ARE AS FOLLOWS:

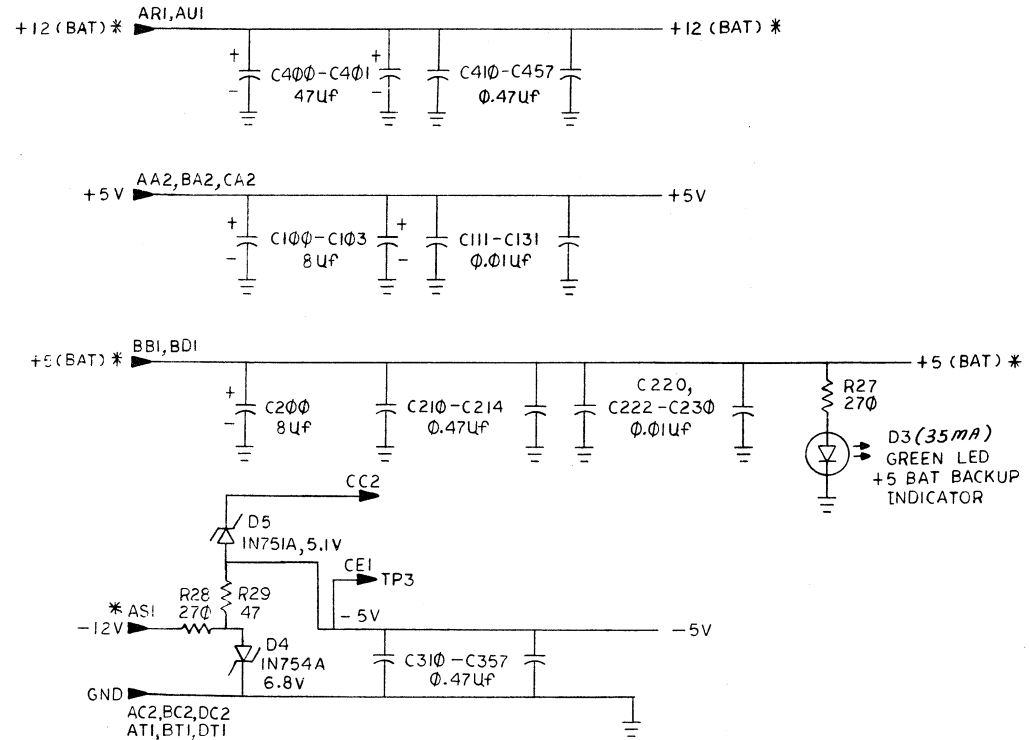
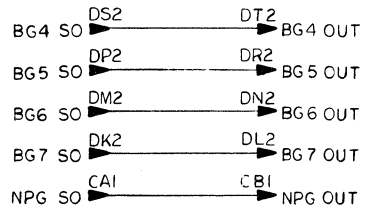
	GND	+5V
14 PIN DIP	7	14
16 PIN DIP	8	16
18 PIN DIP	9	18
20 PIN DIP	10	20

EXCEPTIONS ARE
8640 1 8

SPARES



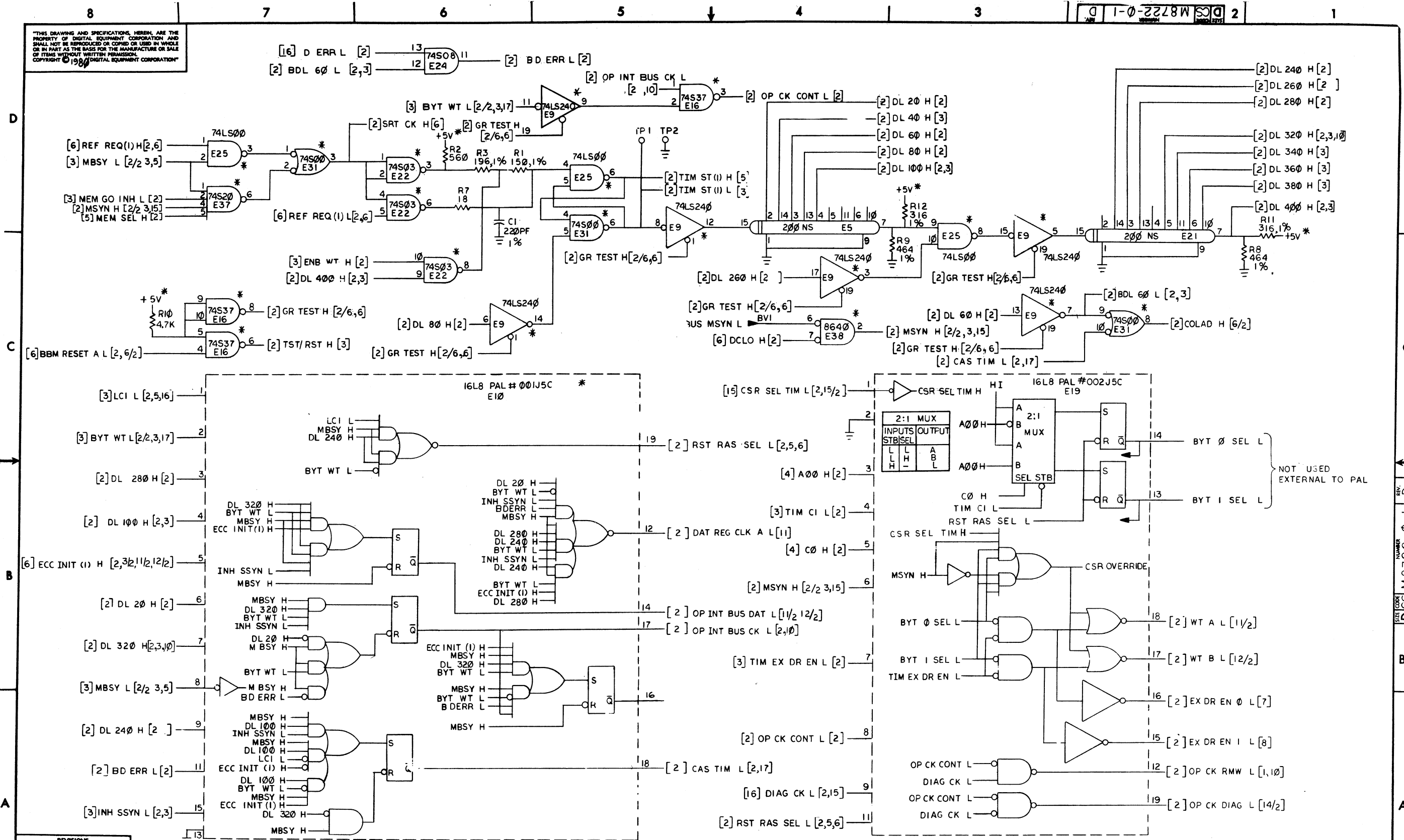
BUS GRANT LINES



REV.	CHANGE NO.	BY	DATE
1	ML001	C	12/18/79
2	ML002	D	12/18/79
3	ML003	D	12/18/79
4	ML004	D	12/18/79
5	ML005	D	12/18/79
6	ML006	D	12/18/79
7	ML007	D	12/18/79
8	ML008	D	12/18/79

DRN. 12-15-79	FIRST USED ON 11/44	digital
CHK'D 12-18-79	TITLE	
ENG. 12-18-79	ECC MOS MEMORY (MS1M)	
PROD. 12-18-79	NEXT HIGHER ASSY.	
B-DD-M8722-0	SIZE D	CODE CS
SCALE	NUMBER M8722-0-1	REV. D
SHEET 1 OF 22	DIST.	

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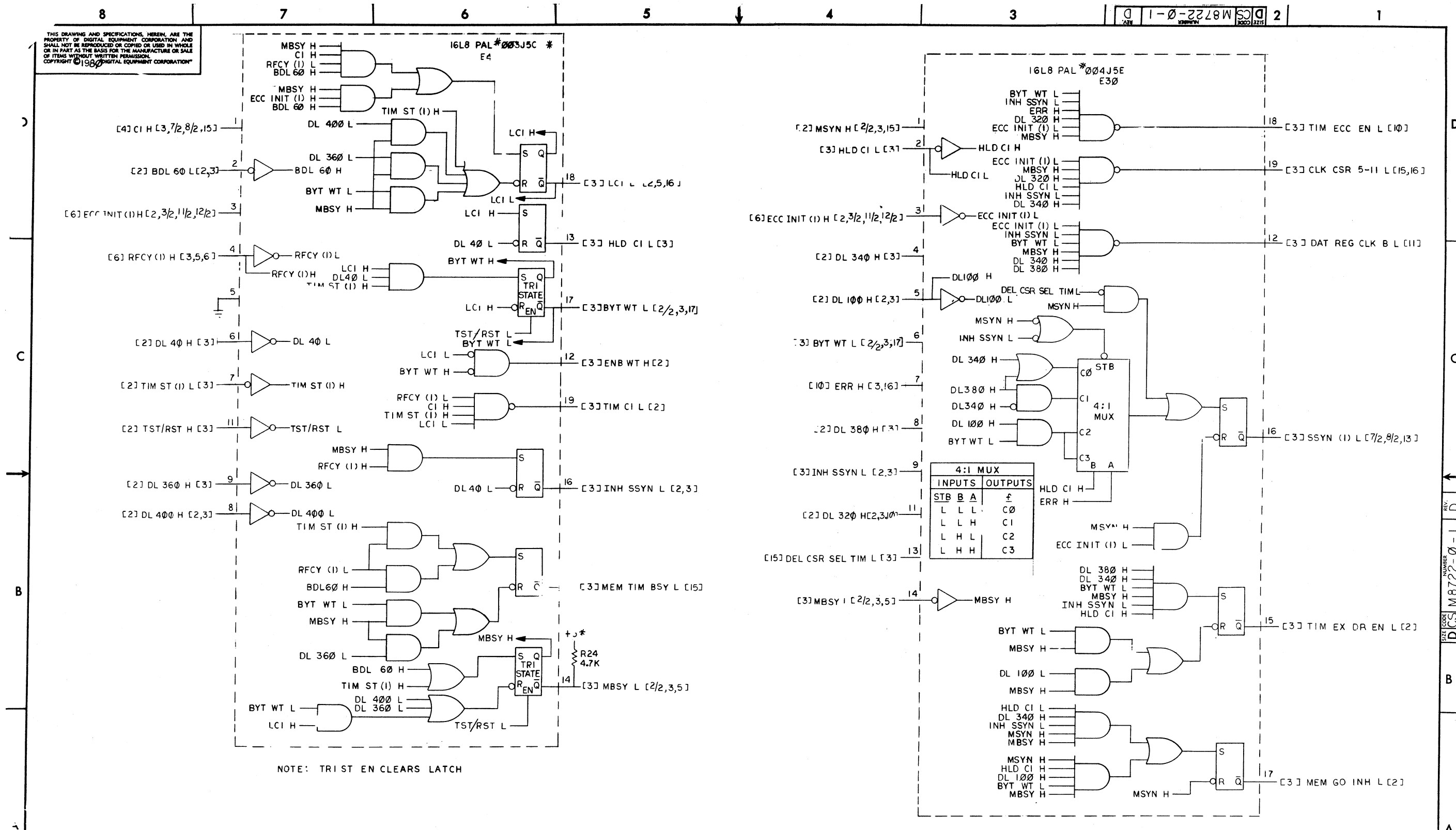


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	ECC MOS MEMORY (MS11M)	SIZE CODE	DCS	NUMBER	M8722-0-1	REV.	D
SCALE	+	SHEET	2	OF	22	DIST.	

REV. D NUMBER M8722-0-1

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NOTE: TRI ST EN CLEARS LATCH

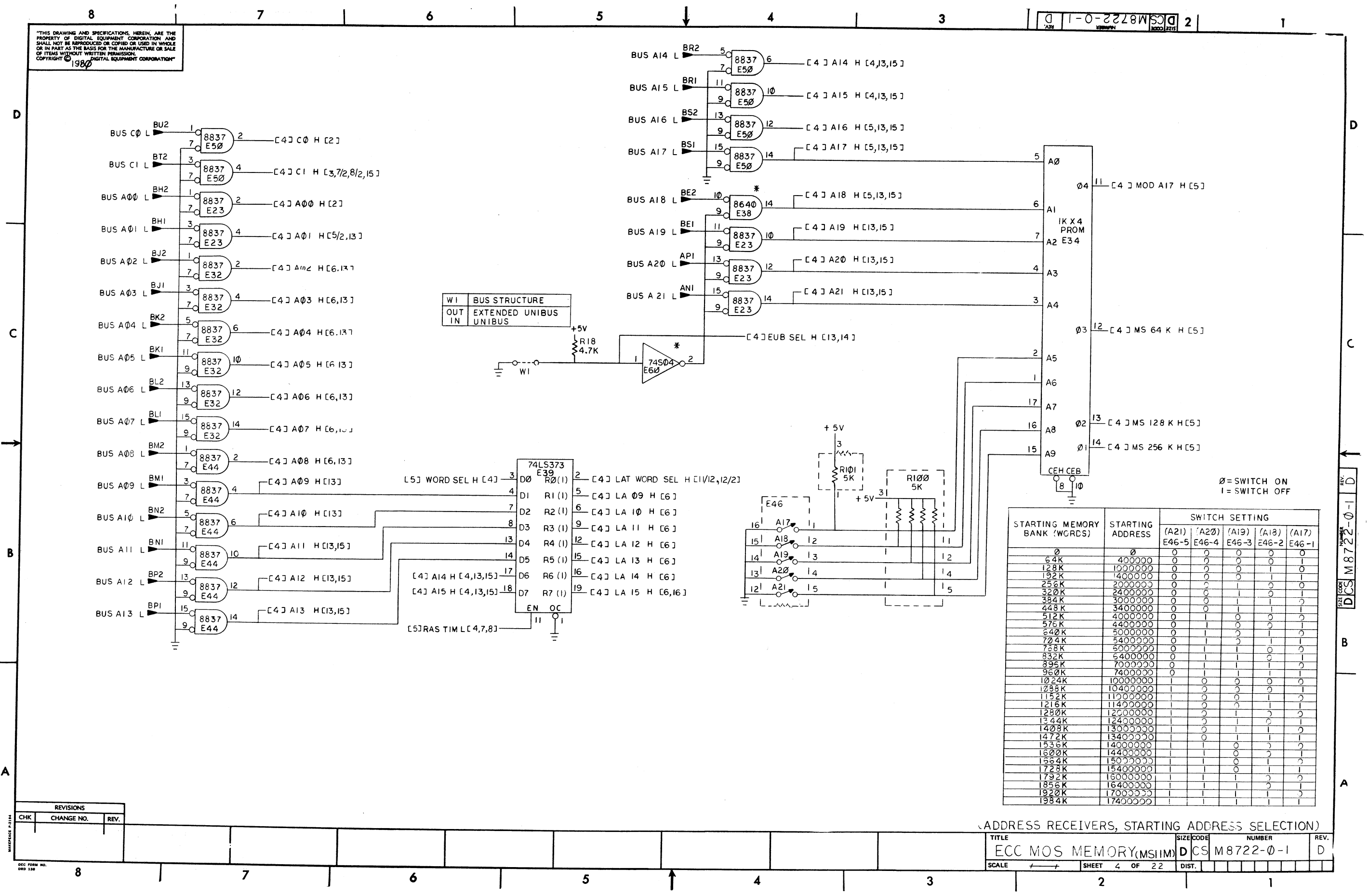
(TIMING AND CONTROL)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE ECC MOS MEMORY (MSI IM)			SIZE/CODE D CS	NUMBER M8722-0-1	REV. D
SCALE 1:1	SHEET 3 OF 22		DIST.		

REV. D
NUMBER M8722-0-1
D CS

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W1	BUS STRUCTURE
OUT	EXTENDED UNIBUS
IN	UNIBUS

STARTING MEMORY BANK (WORDS)	STARTING ADDRESS	SWITCH SETTING				
		(A21) E46-5	(A20) E46-4	(A19) E46-3	(A18) E46-2	(A17)
0	0	0	0	0	0	0
64K	400000	0	0	0	0	0
128K	1000000	0	0	0	0	0
192K	1400000	0	0	0	0	0
256K	2000000	0	0	0	0	0
320K	2400000	0	0	0	0	0
384K	3000000	0	0	0	0	0
448K	3400000	0	0	0	0	0
512K	4000000	0	0	0	0	0
576K	4400000	0	0	0	0	0
640K	5000000	0	0	0	0	0
704K	5400000	0	0	0	0	0
768K	6000000	0	0	0	0	0
832K	6400000	0	0	0	0	0
896K	7000000	0	0	0	0	0
960K	7400000	0	0	0	0	0
1024K	10000000	0	0	0	0	0
1088K	10400000	0	0	0	0	0
1152K	11000000	0	0	0	0	0
1216K	11400000	0	0	0	0	0
1280K	12000000	0	0	0	0	0
1344K	12400000	0	0	0	0	0
1408K	13000000	0	0	0	0	0
1472K	13400000	0	0	0	0	0
1536K	14000000	0	0	0	0	0
1600K	14400000	0	0	0	0	0
1664K	15000000	0	0	0	0	0
1728K	15400000	0	0	0	0	0
1792K	16000000	0	0	0	0	0
1856K	16400000	0	0	0	0	0
1920K	17000000	0	0	0	0	0
1984K	17400000	0	0	0	0	0

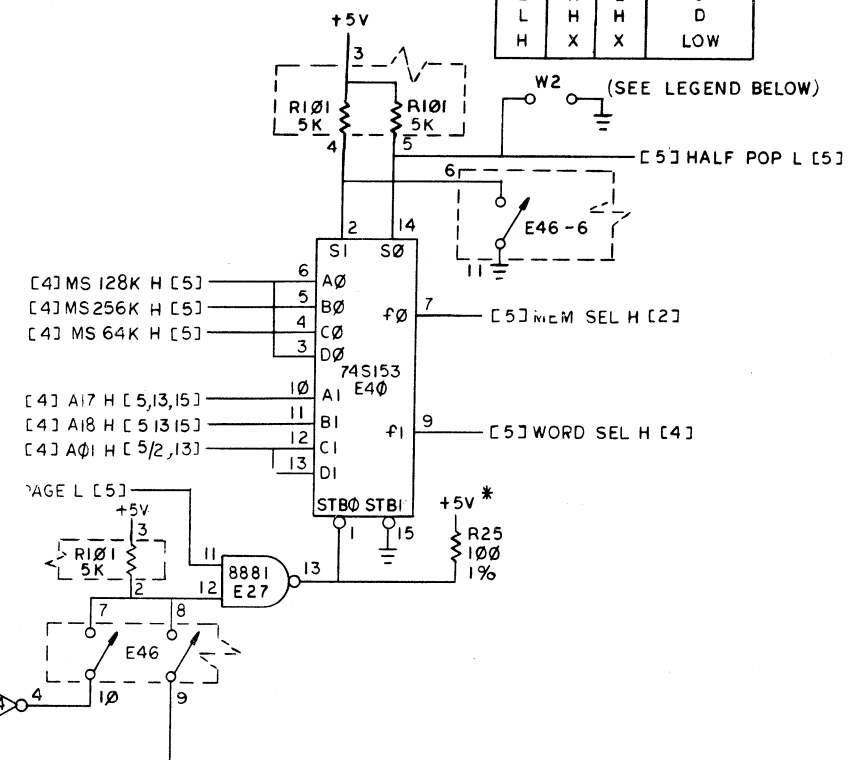
ADDRESS RECEIVERS, STARTING ADDRESS SELECTION

TITLE	SIZE CODE	NUMBER	REV.
ECC MOS MEMORY (MSIIM)	DCS	M8722-0-1	D
SCALE	SHEET	4 OF 22	DIST.

REVISIONS		
CHK	CHANGE NO.	REV.

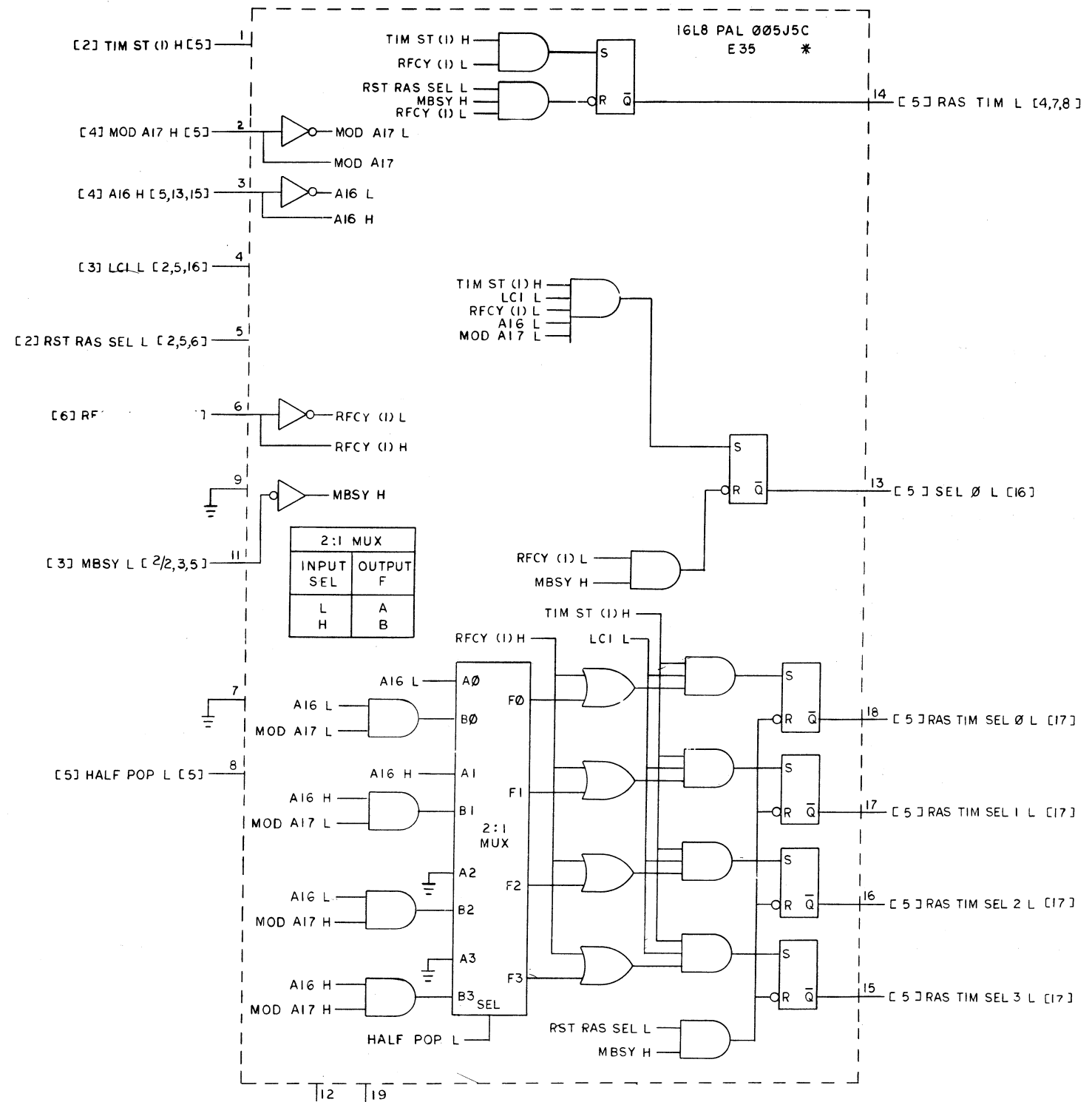
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74SI53 4:1 MUX			
INPUTS			OUTPUTS
STB	SI	S0	F
L	L	L	A
L	L	H	B
L	H	L	C
L	H	H	D
H	X	X	LOW



SW POSITION E46			USAGE JUMPER W2	MEMORY CAPACITY AND INTERLEAVING
8	7	6		
OFF	OFF	OFF	IN	64K 1/2 POP NON INTERL.
OFF	OFF	OFF	OUT	128K FULLY POP NON INTERL.
OFF	ON	ON	IN	64K 1/2 POP INTERL RESPONDS TO A01 H NON ASSERTED
OFF	ON	ON	OUT	128K FULLY POP INTERL RESPONDS TO A01 H NON ASSERTED
ON	OFF	ON	IN	64K 1/2 POP INTERL RESPONDS TO A01 H ASSERTED
ON	OFF	ON	OUT	128K FULLY POP INTERL RESPONDS TO A01 H ASSERTED

NOTE: SW 8 & 7 MUST NOT BE ON AT THE SAME TIME

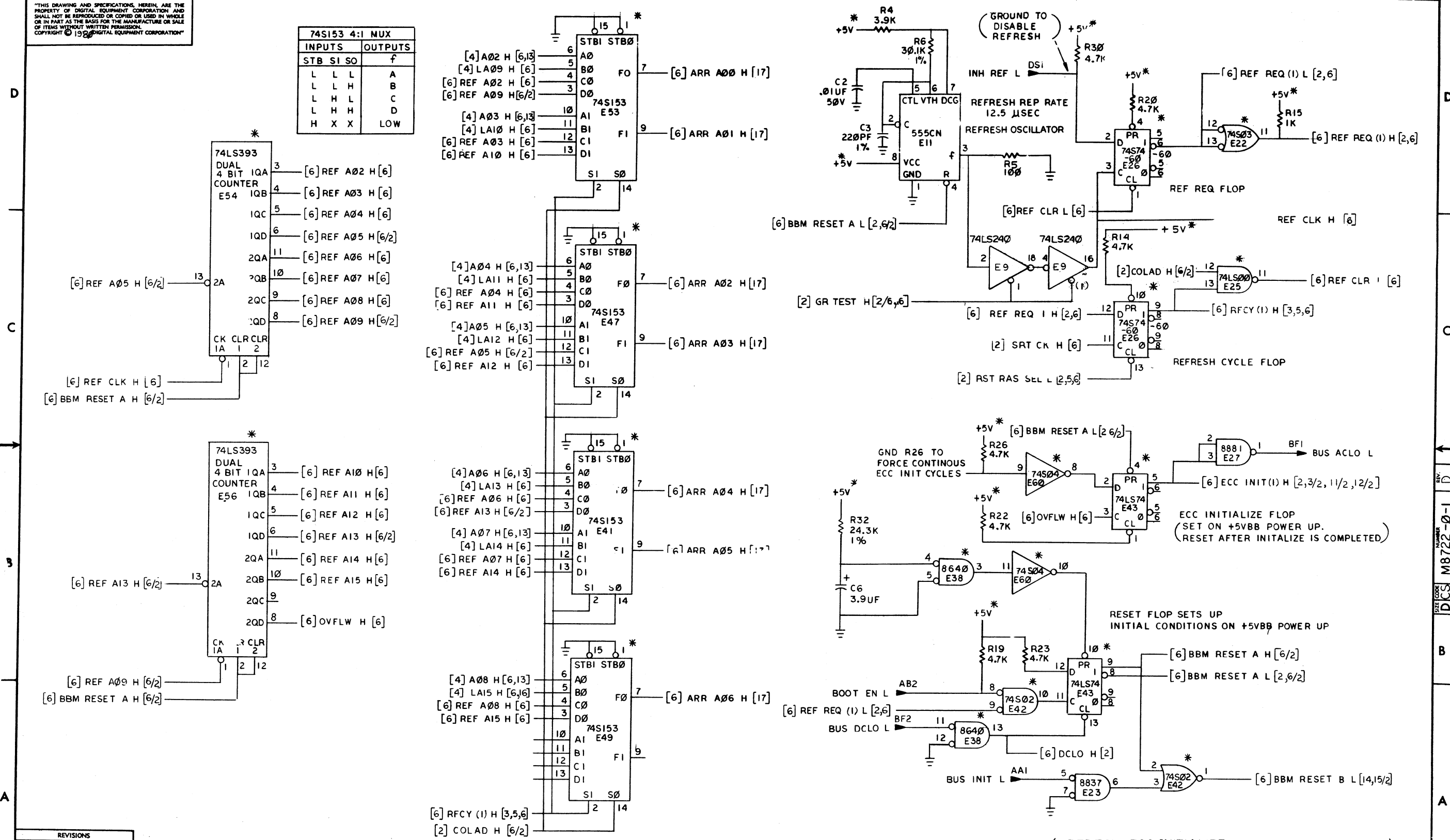


(MEMORY SELECT, INTERLEAVING RAS TIM GENERATION)

REVISIONS		
CHK	CHANGE NO.	REV.

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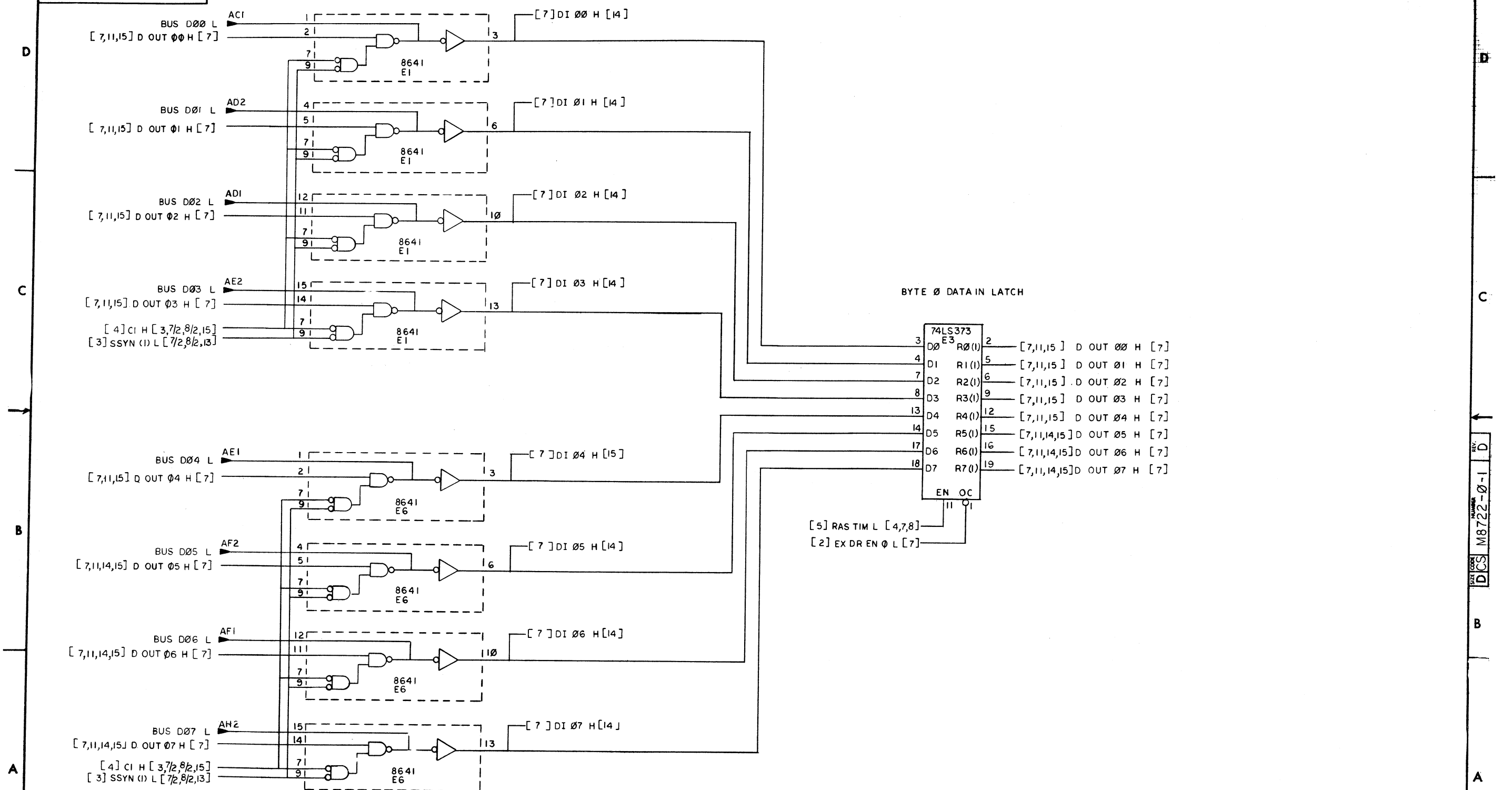
74S153 4:1 MUX			
INPUTS		OUTPUTS	
STB	SI SO	f	
L	L L L	A	
L	L L H	B	
L	H L L	C	
L	H L H	D	
H	X X X	LOW	



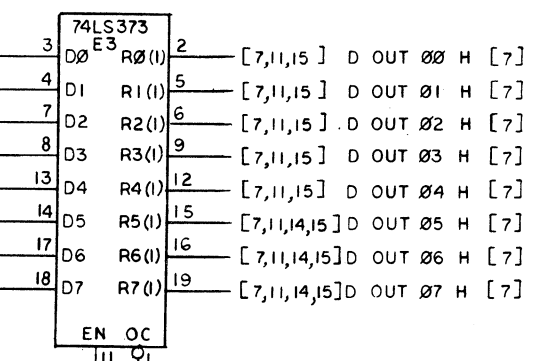
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	ECC MOS MEMORY (MS11M)	SIZE/CODE	D CS	NUMBER	M8722-0-1	REV.	D
SCALE	+	SHEET	6	OF	22	DIST.	

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BYTE 0 DATA IN LATCH



[5] RAS TIM L [4,7,8]
[2] EX DR EN 0 L [7]

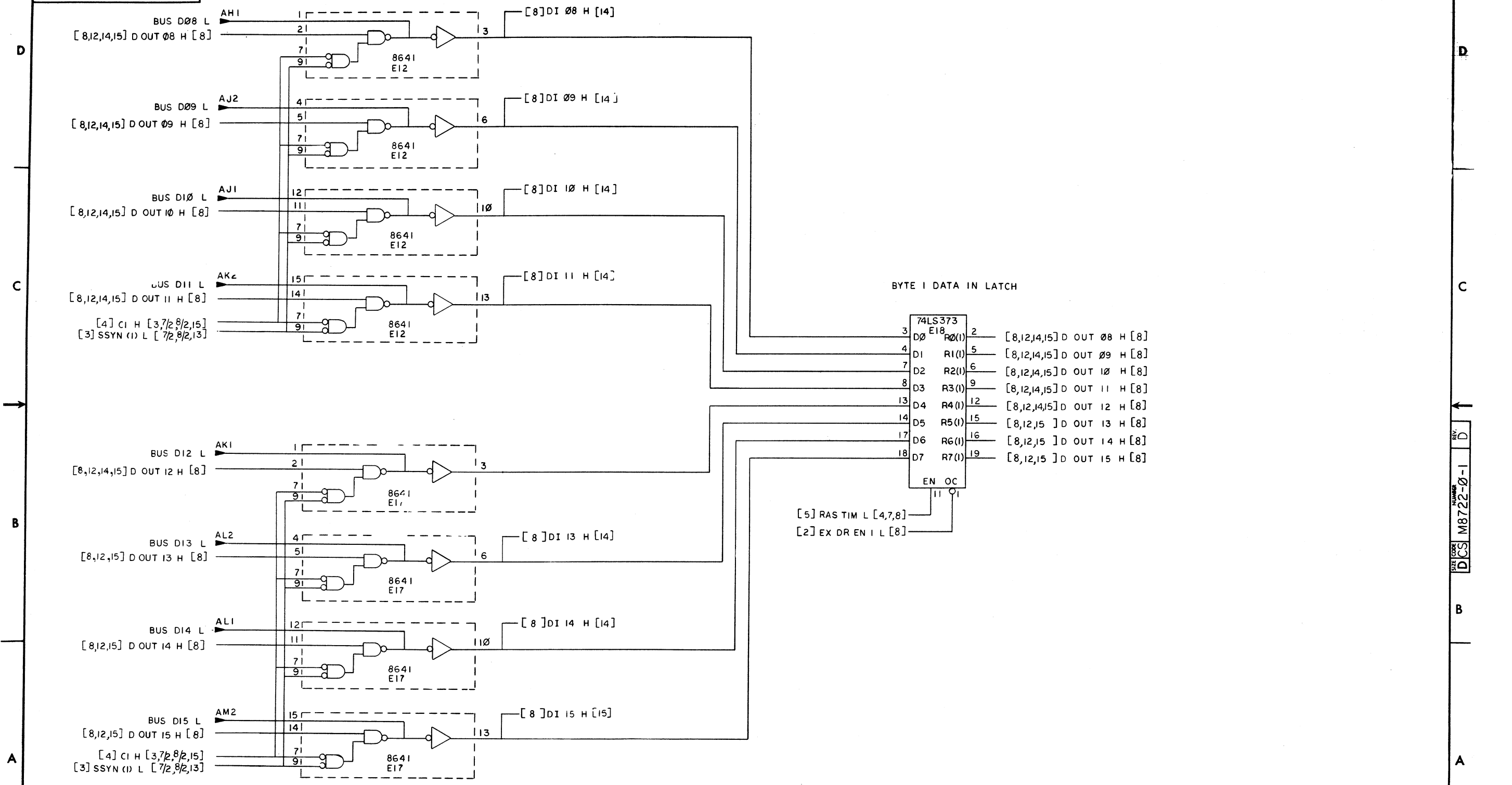
(BYTE 0 DATA DRIVERS, RECEIVERS AND LATCH)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	ECC MOS MEMORY(MSIM)	SIZE CODE	D CS	NUMBER	M8722-0-1	REV	D
SCALE		SHEET	7	OF	22	DIST.	

REV. D
M8722-0-1
D CS

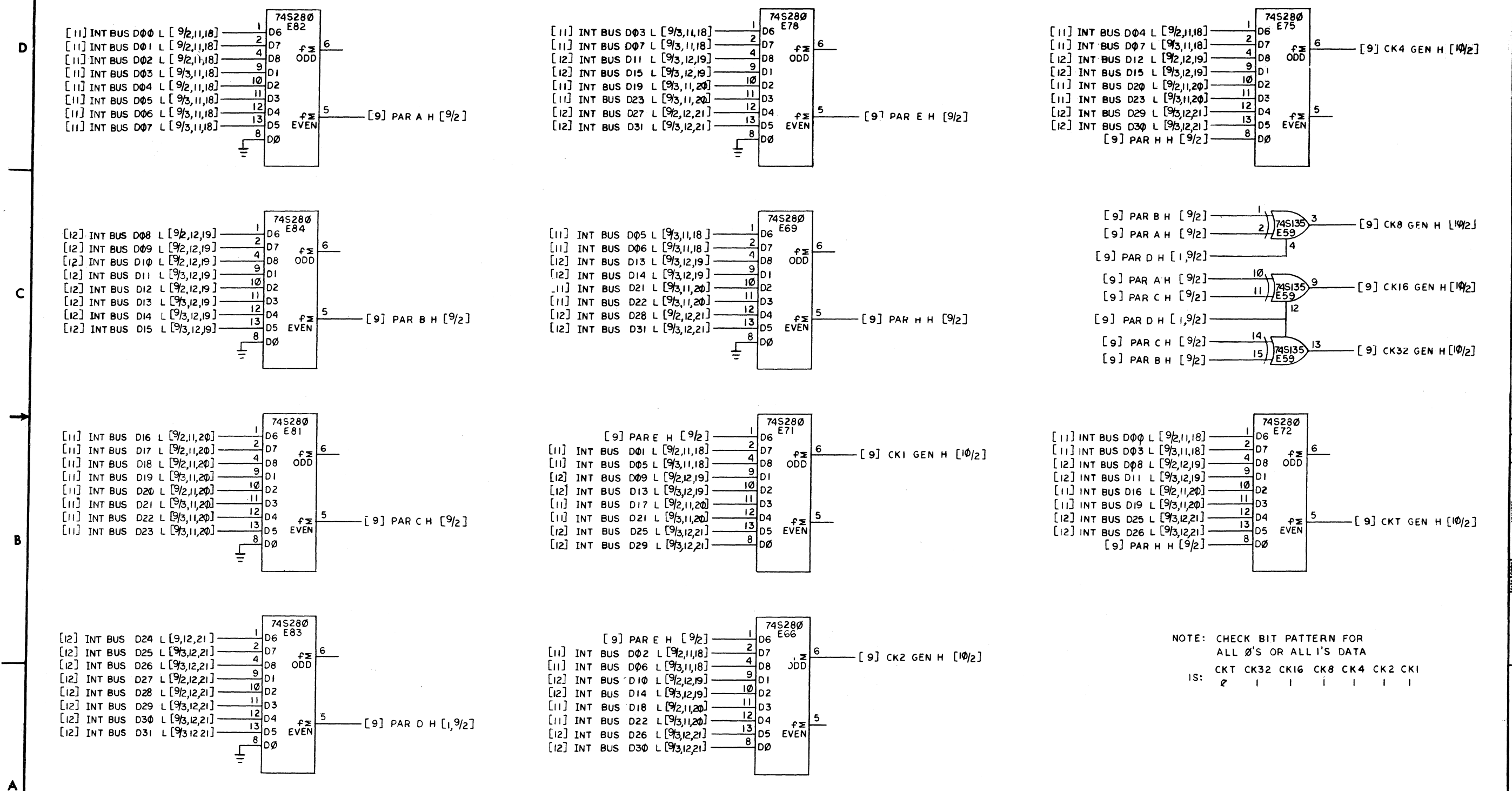
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REVISIONS		
CHK	CHANGE NO.	REV.

(BYTE 1 DATA DRIVERS, RECEIVERS AND LATCH)		TITLE	SIZE CODE	NUMBER	REV.
ECC MOS MEMORY (MS11M)		DCS	M8722-0-1	D	D
SCALE	SHEET 8 OF 22	DIST.			

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NOTE: CHECK BIT PATTERN FOR ALL 0'S OR ALL 1'S DATA
IS: CKT CK32 CK16 CK8 CK4 CK2 CK1
0 1 1 1 1 1 1

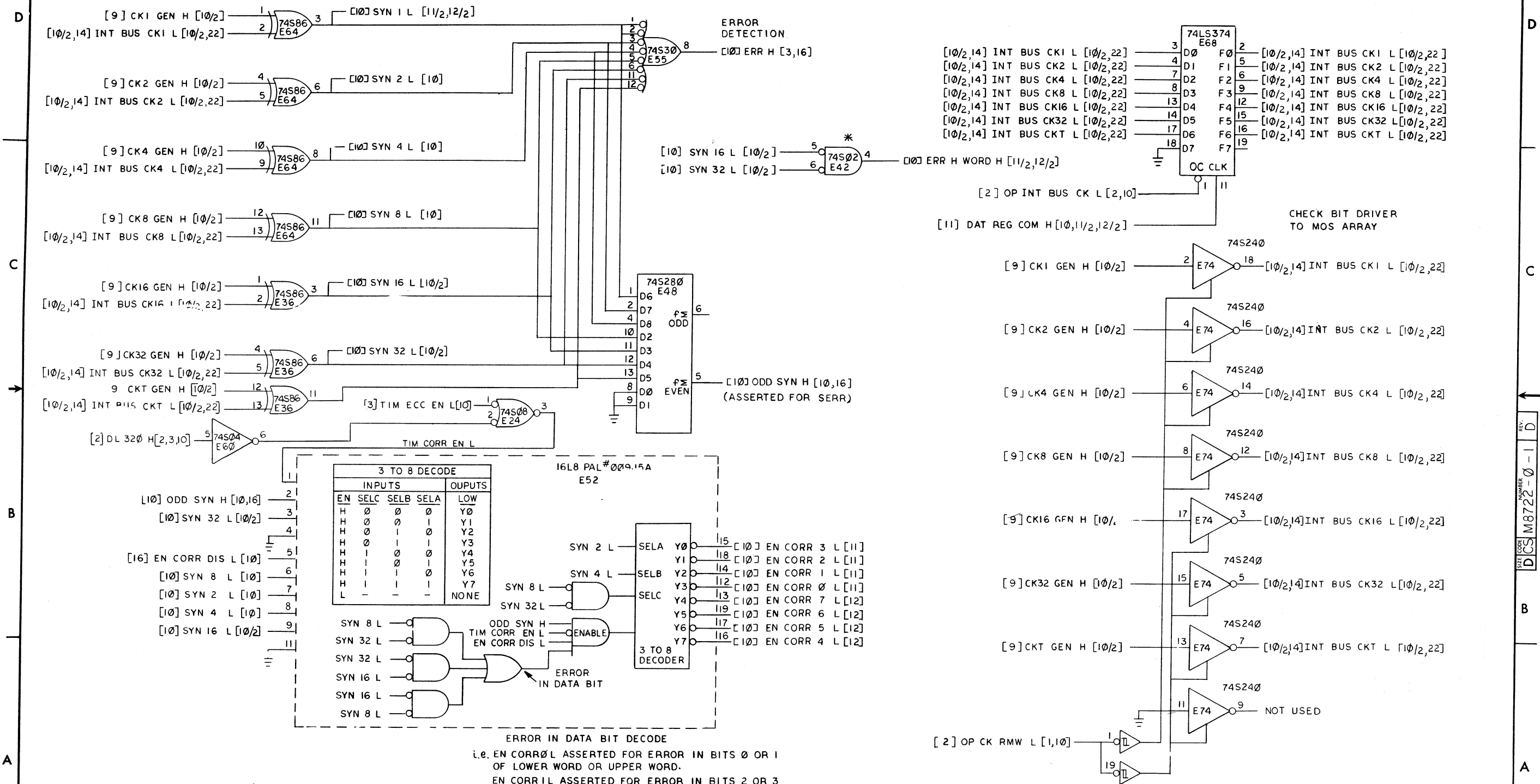
(CHECK BIT GENERATION)

REVISIONS			TITLE		SIZE CODE		NUMBER		REV.
CHK	CHANGE NO.	REV.	ECC MOS MEMORY (MS1HM)		DCS		M8722-0-1		D
			SCALE		SHEET	9	OF	22	DIST.

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SYNDROME GENERATION ON CHECK BIT COMPARE

CHECK BIT REGISTER



3 TO 8 DECODE

INPUTS				OUTPUTS
EN	SELC	SELB	SELA	LOW
H	0	0	0	Y0
H	0	0	1	Y1
H	0	1	0	Y2
H	0	1	1	Y3
H	1	0	0	Y4
H	1	0	1	Y5
H	1	1	0	Y6
H	1	1	1	Y7
L	-	-	-	NONE

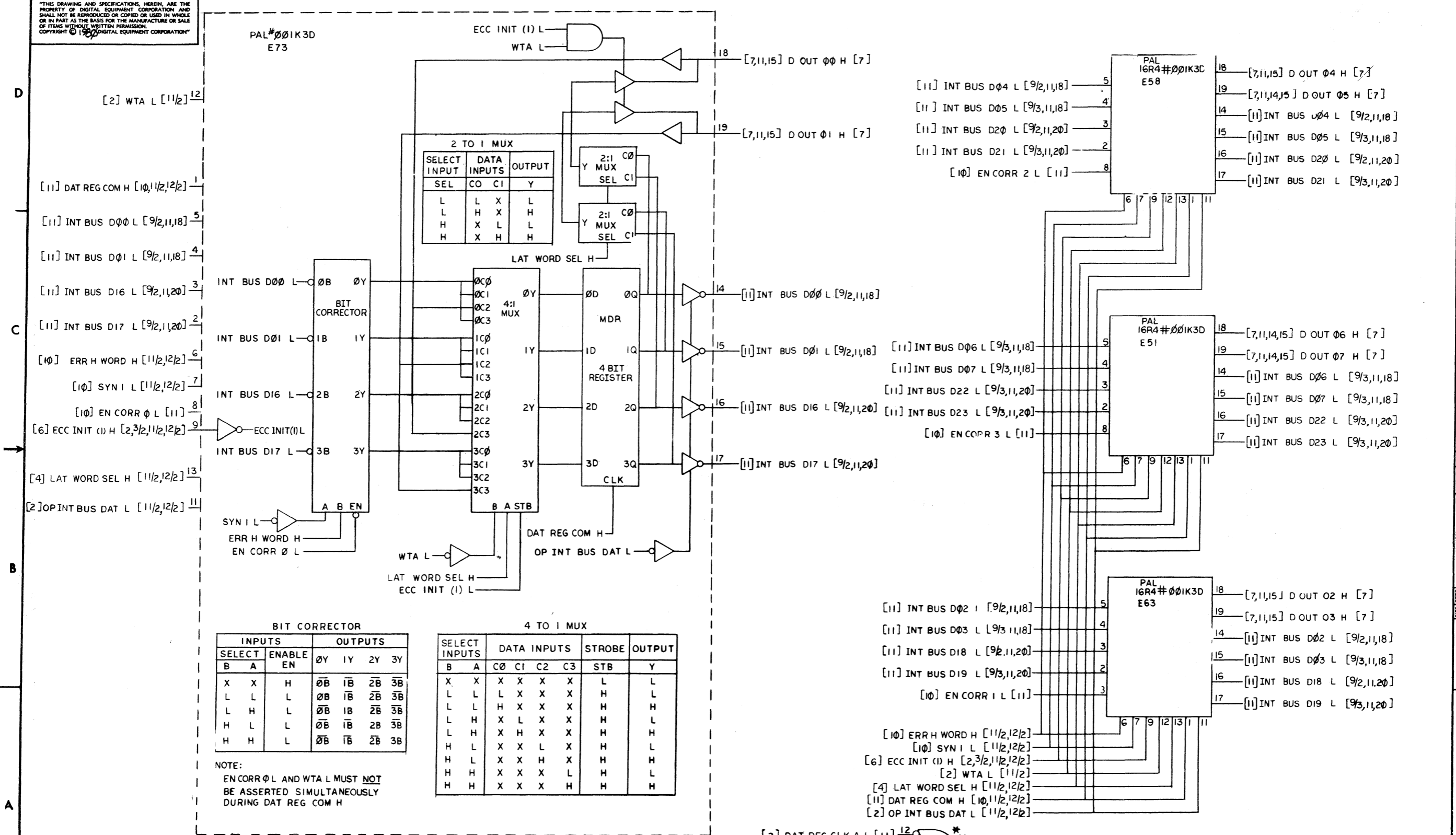
ERROR IN DATA BIT DECODE
 i.e. EN CORR 0 L ASSERTED FOR ERROR IN BITS 0 OR 1 OF LOWER WORD OR UPPER WORD.
 EN CORR 1 L ASSERTED FOR ERROR IN BITS 2 OR 3 OF LOWER WORD OR UPPER WORD ETC.
 NO OUTPUTS ASSERTED FOR ERROR IN CHECK BIT

REVISIONS

CHK	CHANGE NO.	REV.

REV. D
 NUMBER
 DCS M8722-0-1

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REVISIONS		
CHK	CHANGE NO.	REV.

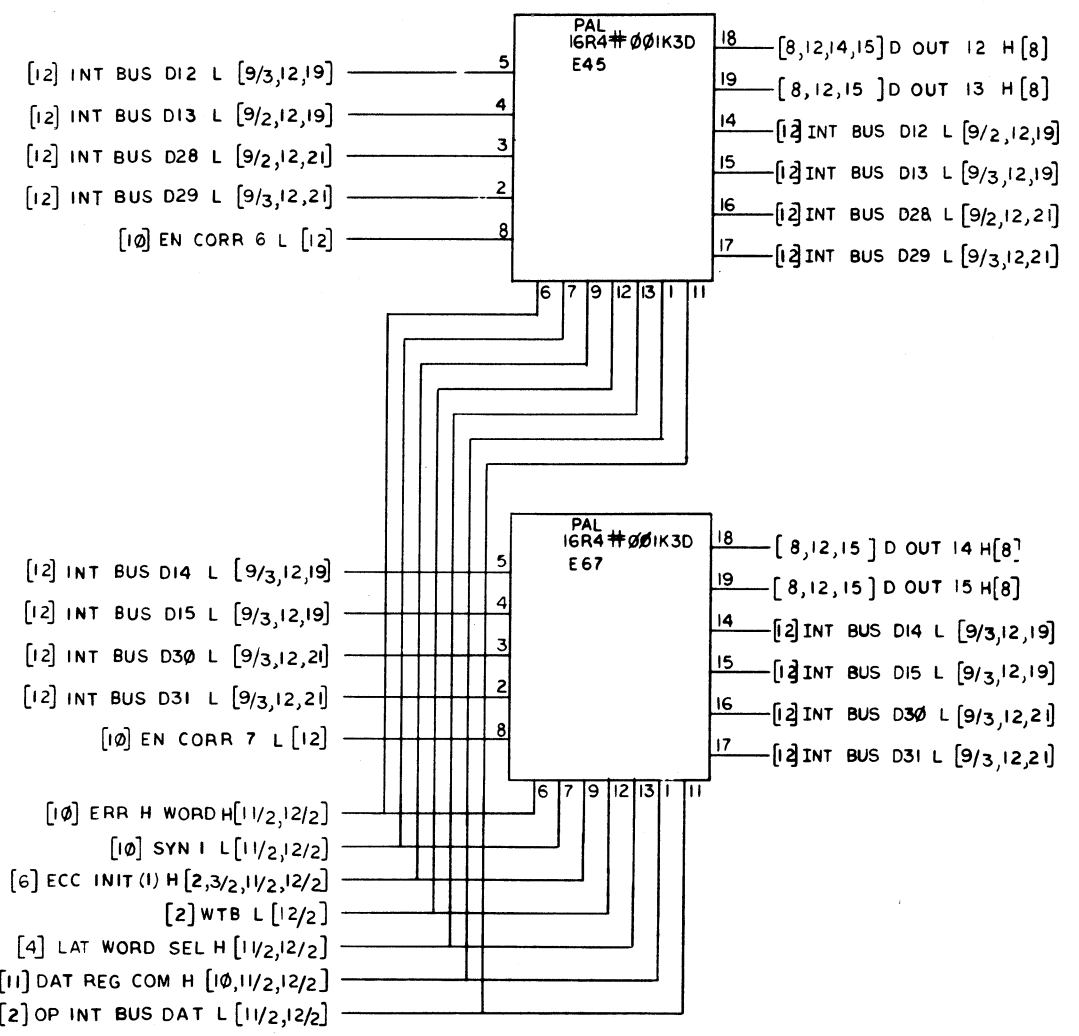
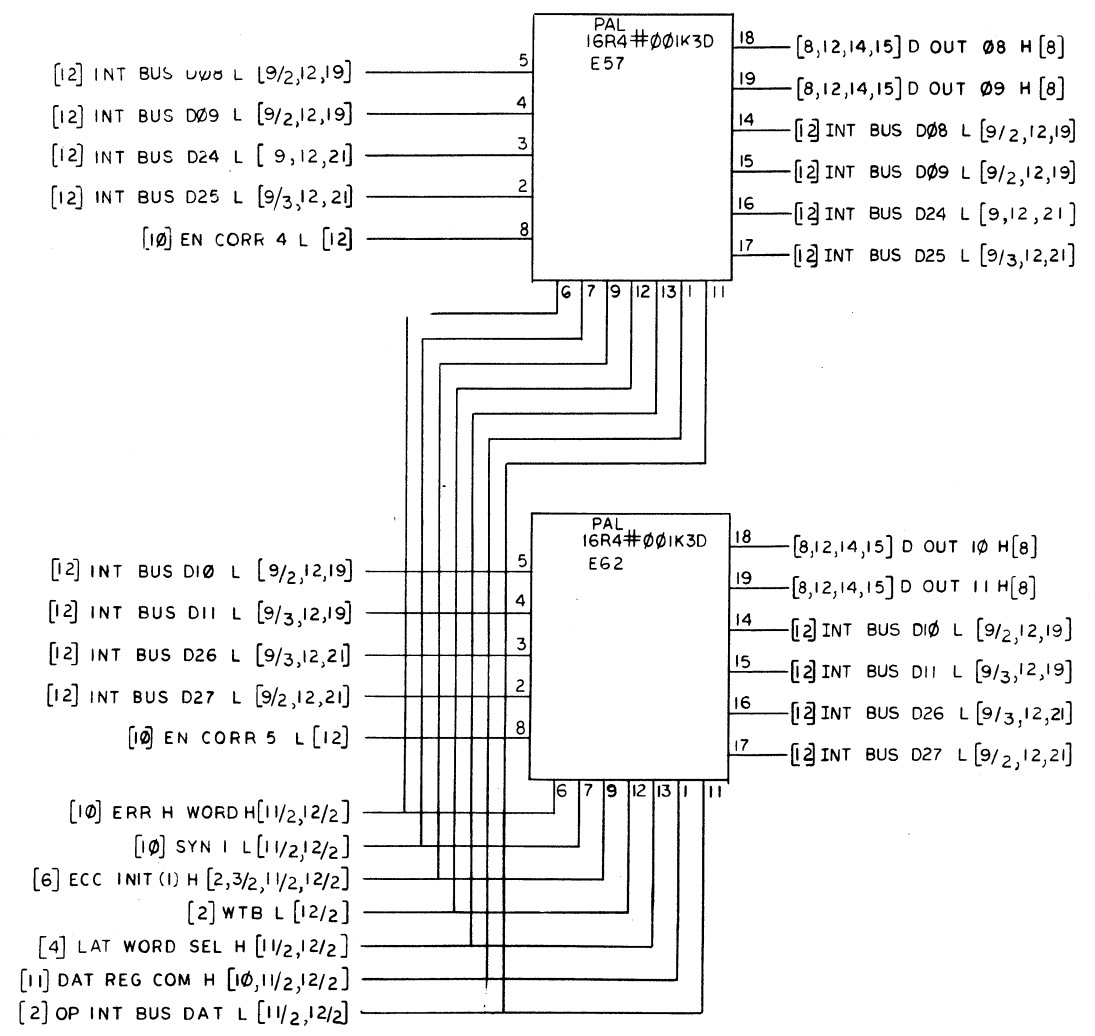
[2] DAT REG CLK A L [11] 12
 [3] DAT REG CLK B L [11] 13

(DATA CORRECTOR, MDR)

TITLE	SIZE CODE	NUMBER	REV.
ECC MOS MEMORY (MS11M)	DCS	M8722-0-1	D
SCALE	SHEET 11 OF 22	DIST.	

REV. D NUMBER DCS M8722-0-1

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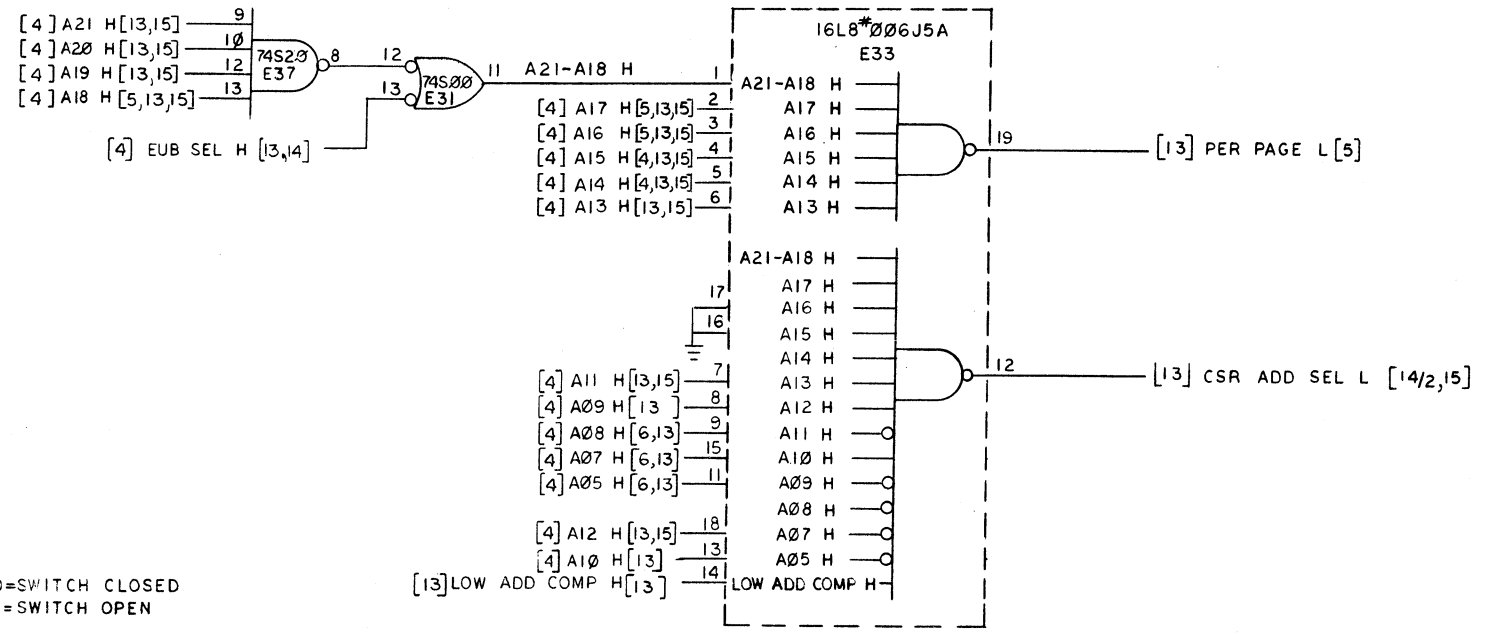


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		(DATA CORRECTOR, MDR)	
ECC MOS MEMORY (MSIIM)		SIZE CODE	NUMBER
SCALE - / -		D CS	M8722-0-1
SHEET 12 OF 22		DIST.	REV. D

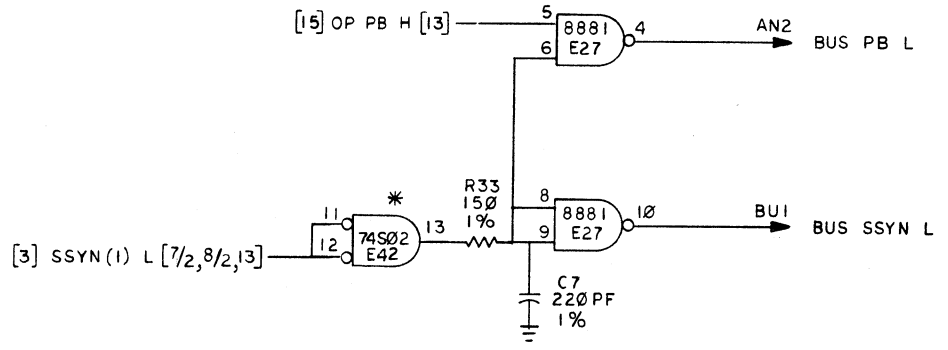
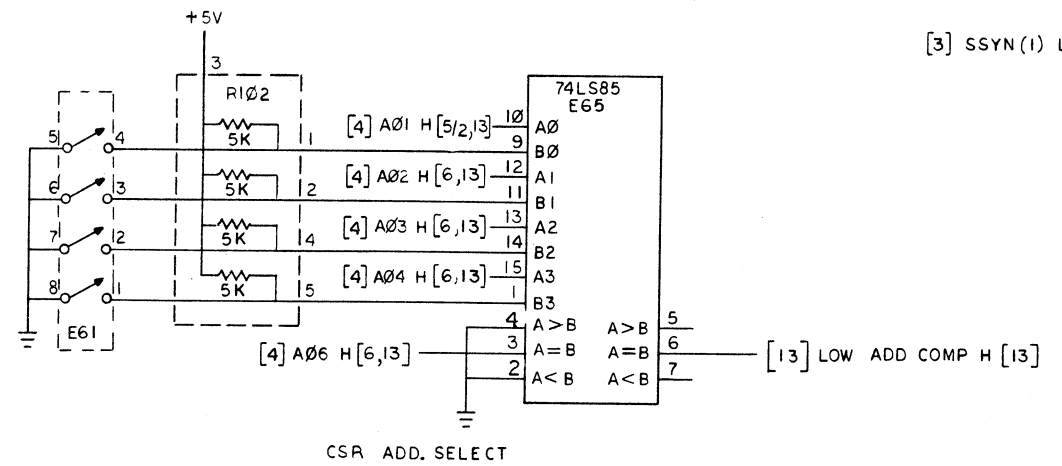
DCS M8722-0-1 D

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0=SWITCH CLOSED
 1=SWITCH OPEN

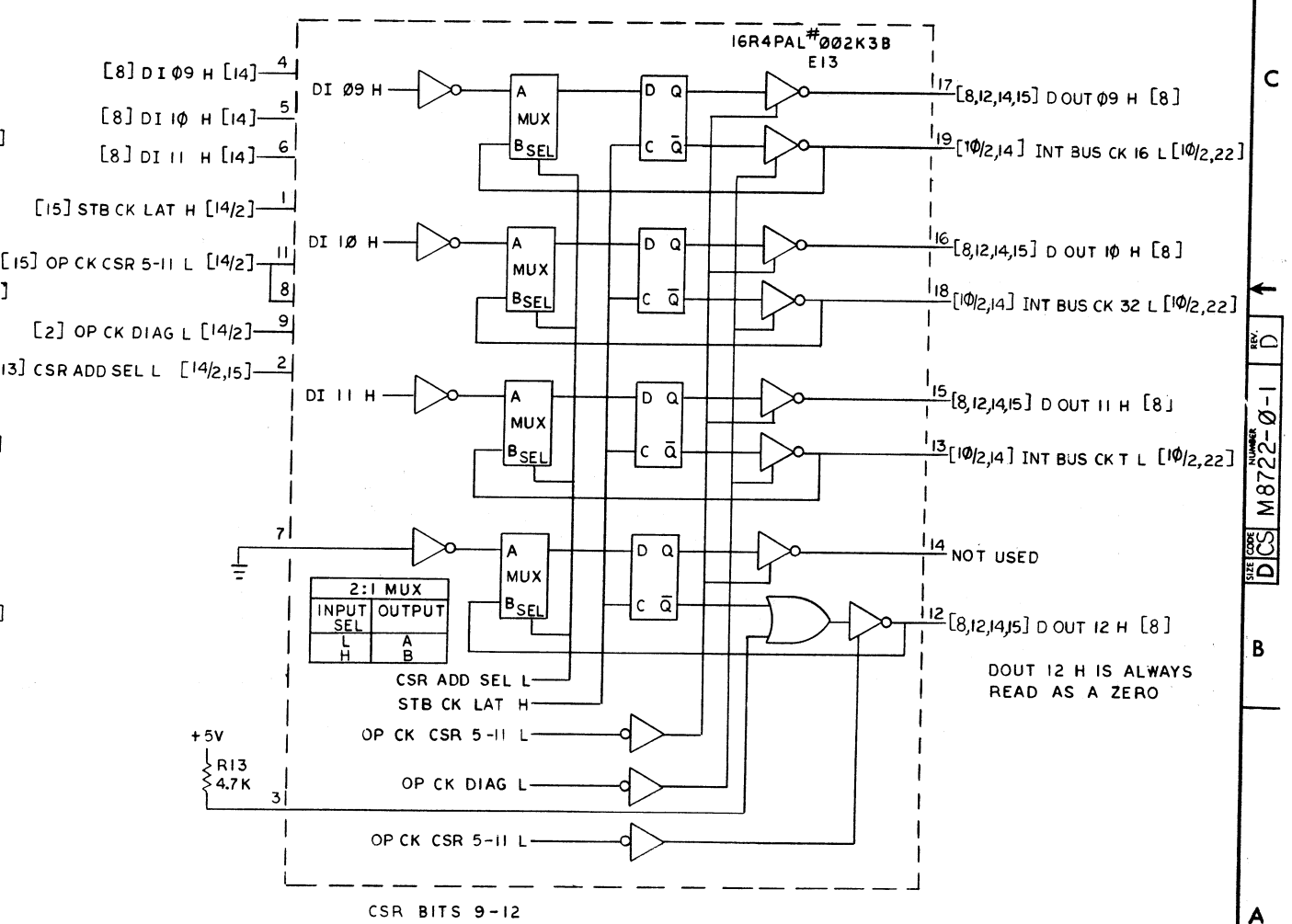
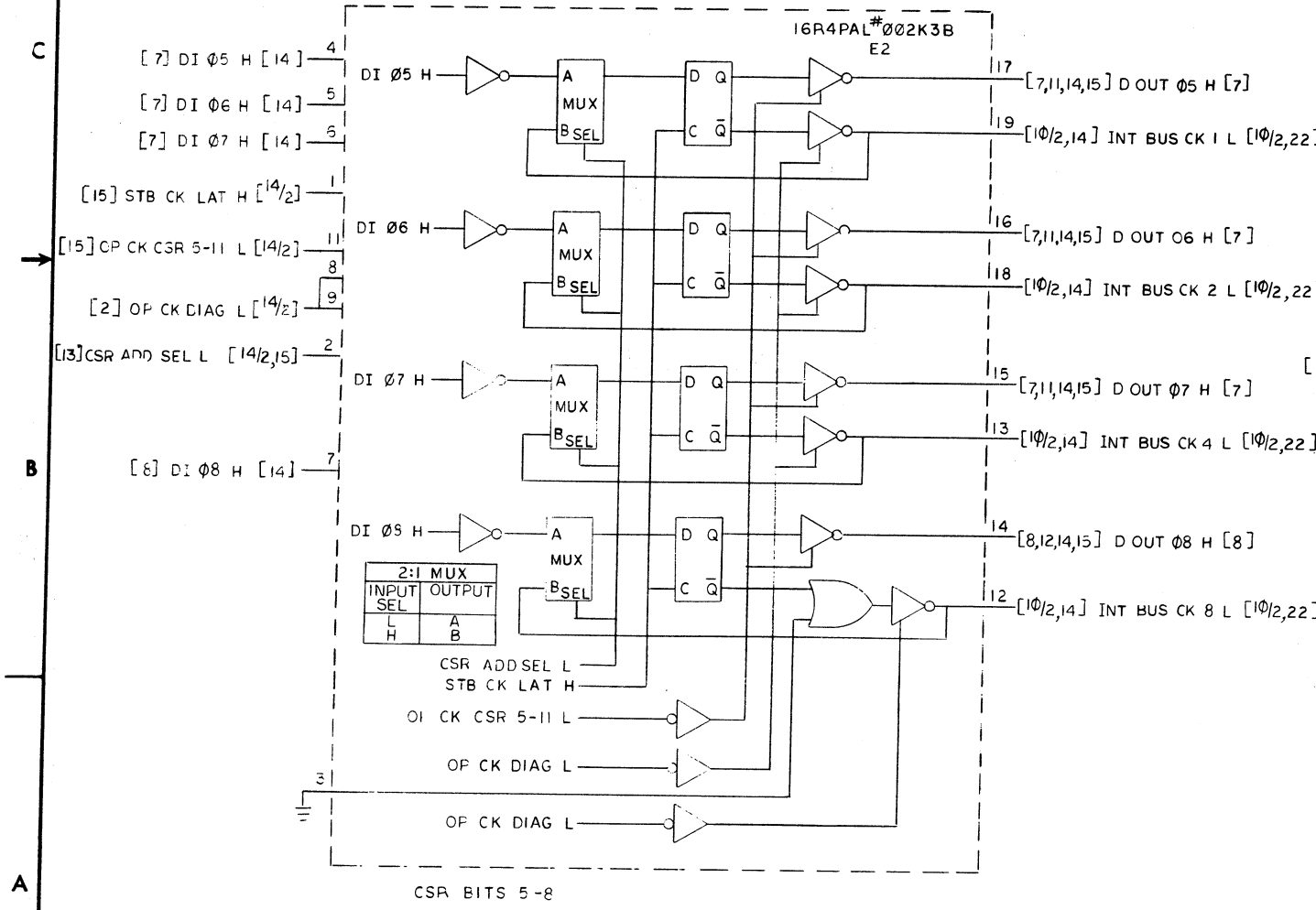
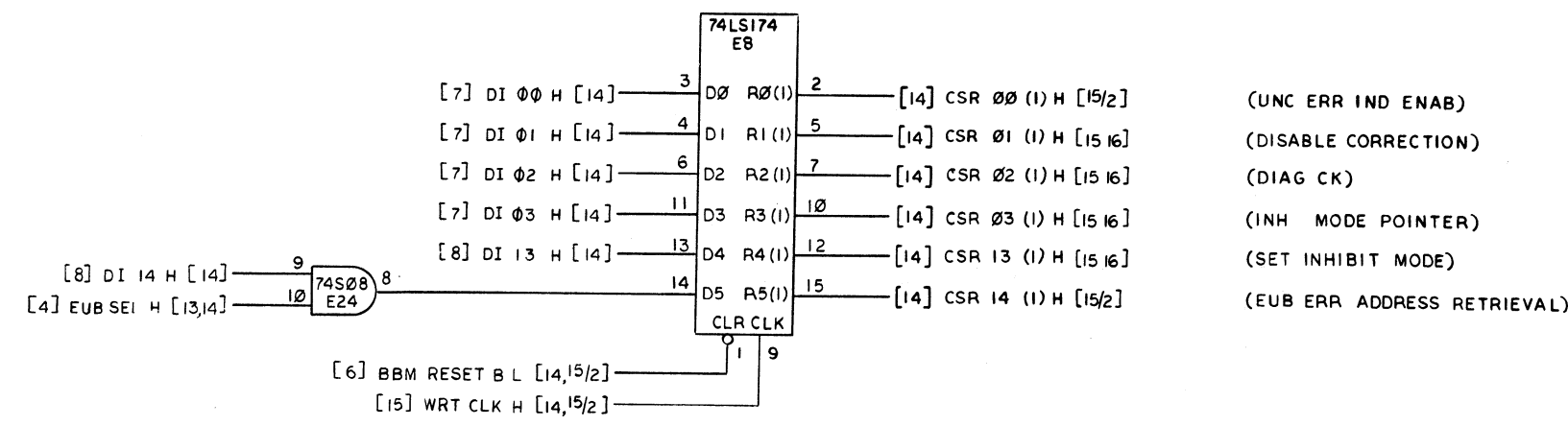
CSR ADDRESS	E61			
	A04	A03	A02	A01
772100	0	0	0	0
772102	0	0	0	1
772104	0	0	1	0
772106	0	0	1	1
772110	0	1	0	0
772112	0	1	0	1
772114	0	1	1	0
772116	0	1	1	1
772120	1	0	0	0
772124	1	0	1	0
772126	1	0	1	1
772130	1	1	0	0
772132	1	1	0	1
772134	1	1	1	0
772136	1	1	1	1



(CSR ADDRESS SELECTION)

REVISIONS		
CHK	CHANGE NO.	REV.

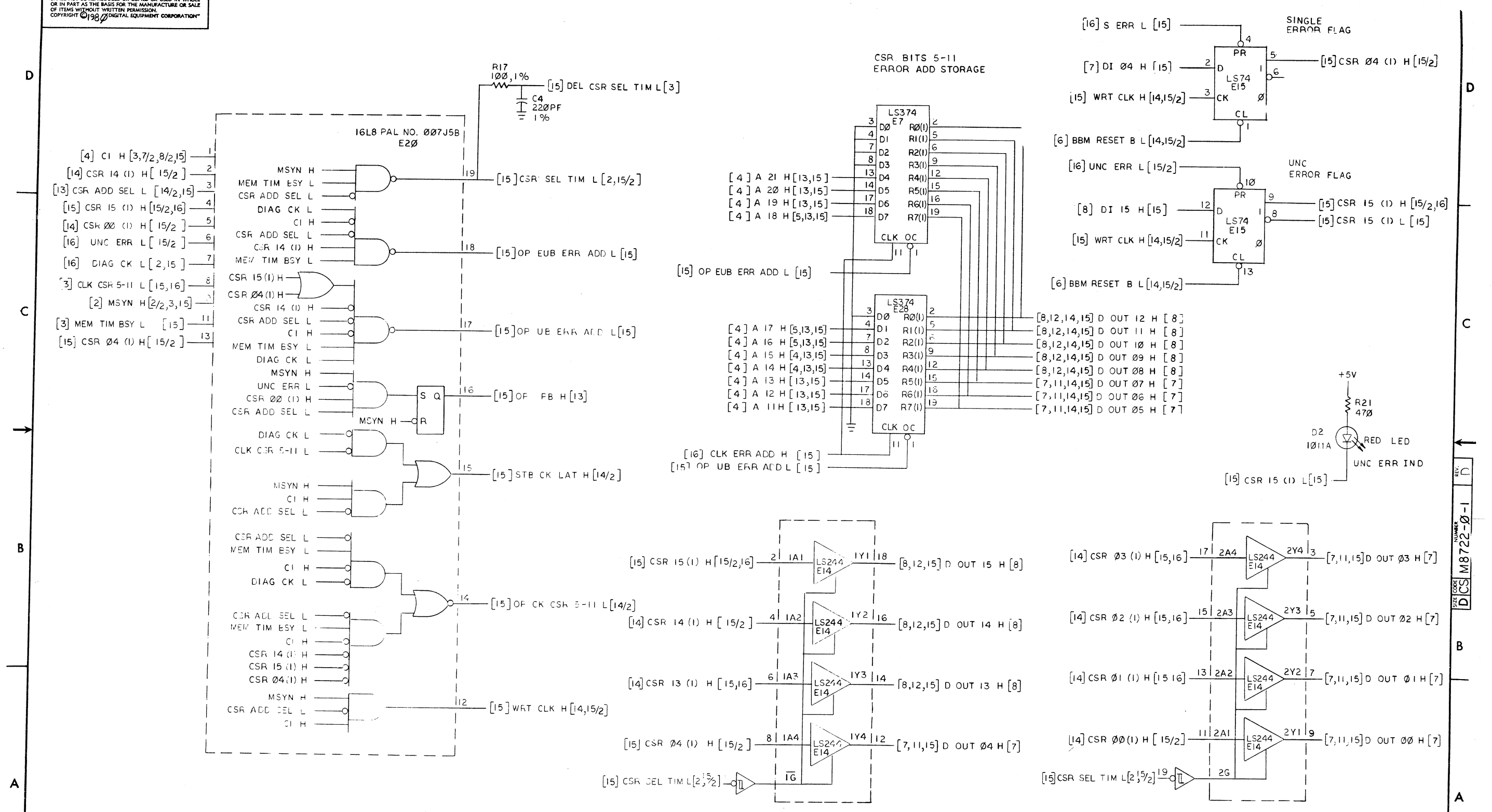
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REVISIONS			TITLE		SIZE	CODE	NUMBER	REV.
CHK	CHANGE NO.	REV.	ECC MOS MEMORY (MSIIM)		D	CS	M8722-0-1	D
			SCALE		SHEET	14	OF 22	DIST.

D CS M8722-0-1 REV. D

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REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE CODE	NUMBER	REV.
ECC MOS MEMORY (MS11M)		D CS	M8722-0-1	D
SCALE	SHEET	OF	DIST.	
	15	22		

REV. D
DIGITAL EQUIPMENT CORPORATION
M8722-0-1

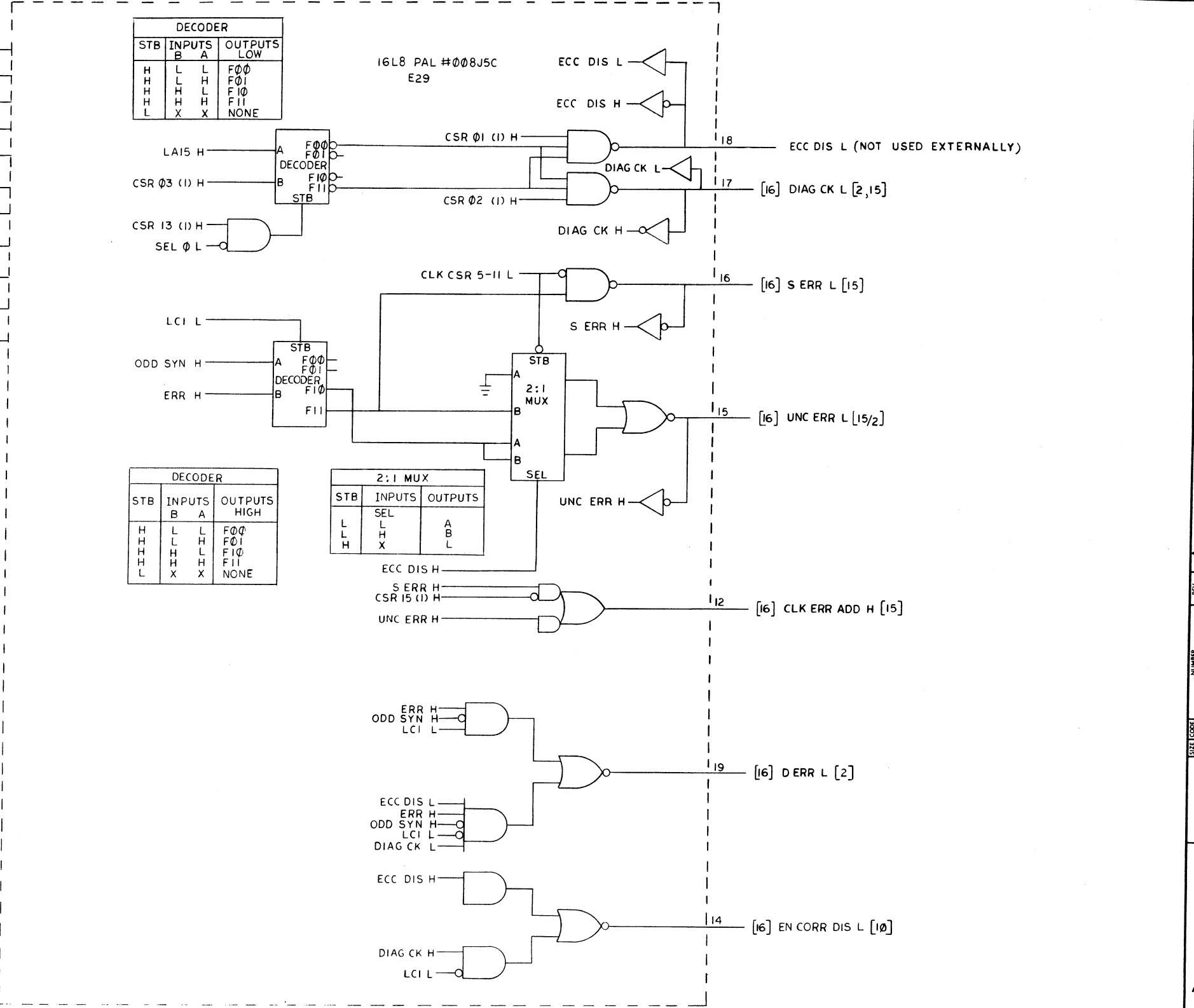
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- [14] CSR 01 (1) H [15,16] 1
- [4] LA 15 H [6,16] 2
- [14] CSR 03 (1) H [15,16] 3
- [14] CSR 02 (1) H [15,16] 4
- [14] CSR 13 (1) H [15,16] 5
- [5] SEL 0 L [16] 6
- [10] ODD SYN H [10,16] 7
- [10] ERR H [3,16] 8
- [3] CLK CSR 5-11 L [15,16] 9
- [3] LCI L [2,5,16] 11
- [15] CSR 15 (1) H [15/2,16] 13

DECODER		
STB	INPUTS B A	OUTPUTS LOW
H	L L	F00
H	L H	F01
H	H L	F10
H	H H	F11
L	X X	NONE

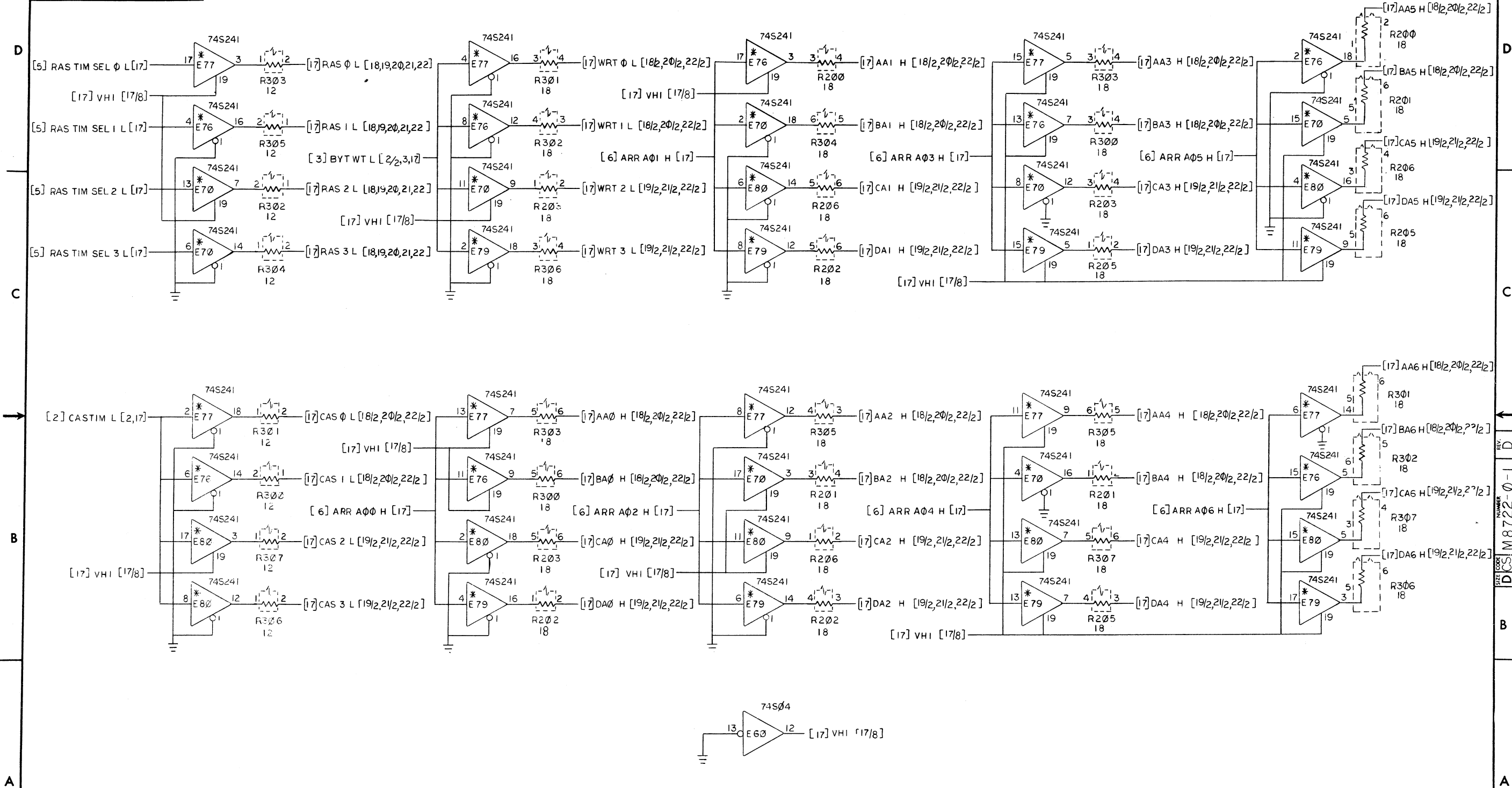
DECODER		
STB	INPUTS B A	OUTPUTS HIGH
H	L L	F00
H	L H	F01
H	H L	F10
H	H H	F11
L	X X	NONE

2:1 MUX		
STB	INPUTS	OUTPUTS
L	SEL L	A
L	SEL H	B
H	X	L



REVISIONS		
CHK	CHANGE NO.	REV.

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REVISIONS		
CHK	CHANGE NO.	REV.

(ARRAY DRIVERS)		TITLE	SIZE CODE	NUMBER	REV.
ECC MOS MEMORY (MS11M)		D CS	M 8722-0-1	D	
SCALE	SHEET 17 OF 22	DIST.			

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[17] RAS 0 L [18,19,20,21,22]
 [17] CAS 0 L [18,2,20,2,22/2]
 [17] WRT 0 L [18,2,20,2,22/2]

[17] AA0 H [18,2,20,2,22/2]
 [17] AA1 H [18,2,20,2,22/2]
 [17] AA2 H [18,2,20,2,22/2]
 [17] AA3 H [18,2,20,2,22/2]
 [17] AA4 H [18,2,20,2,22/2]
 [17] AA5 H [18,2,20,2,22/2]
 [17] AA6 H [18,2,20,2,22/2]

[17] RAS 1 L [18,19,20,21,22]
 [17] CAS 0 L [18,2,20,2,22/2]
 [17] WRT 0 L [18,2,20,2,22/2]

[17] AA0 H [18,2,20,2,22/2]
 [17] AA1 H [18,2,20,2,22/2]
 [17] AA2 H [18,2,20,2,22/2]
 [17] AA3 H [18,2,20,2,22/2]
 [17] AA4 H [18,2,20,2,22/2]
 [17] AA5 H [18,2,20,2,22/2]
 [17] AA6 H [18,2,20,2,22/2]

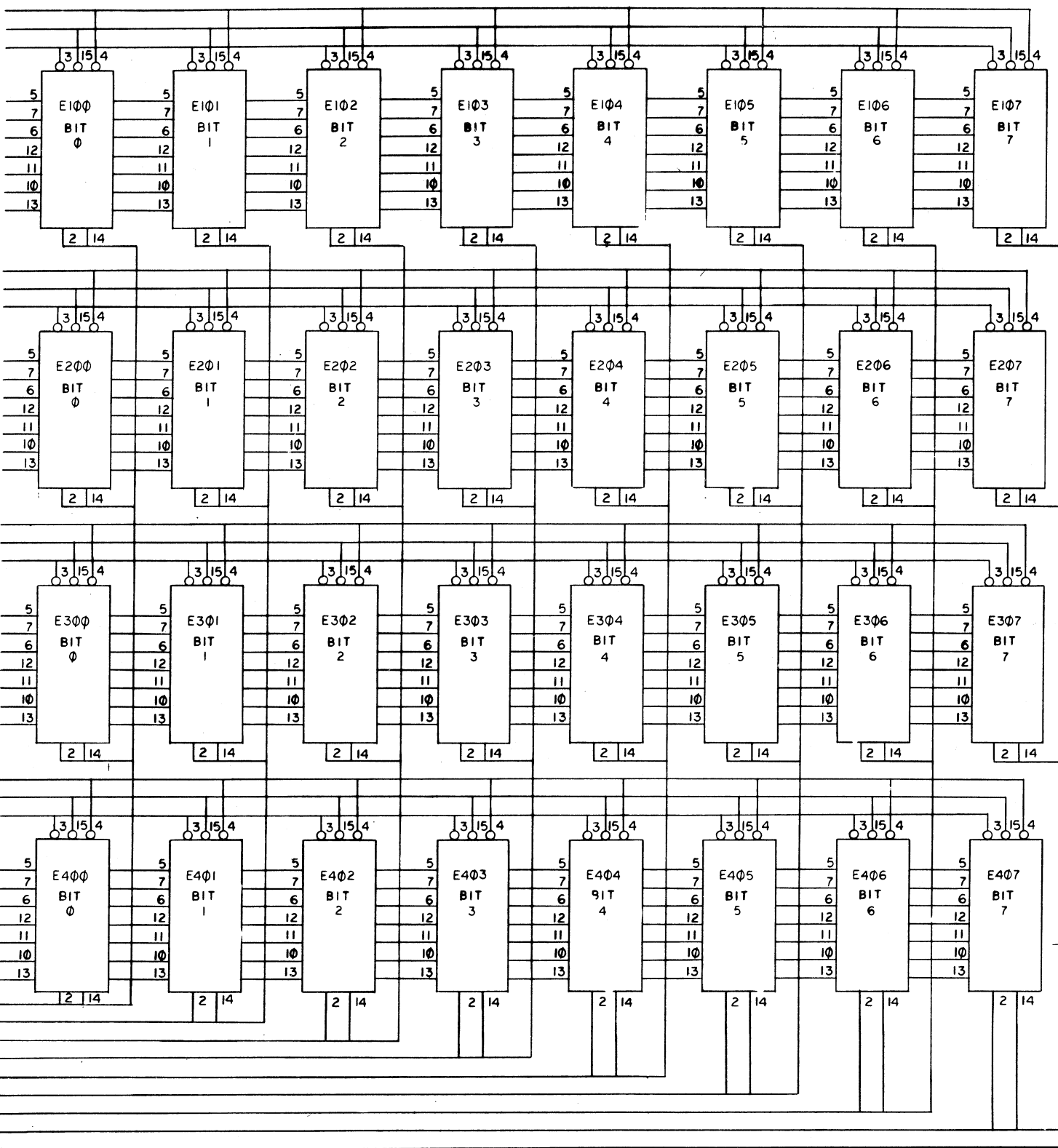
[17] RAS 2 L [18,19,20,21,22]
 [17] CAS 1 L [18,2,20,2,22/2]
 [17] WRT 1 L [18,2,20,2,22/2]

[17] BA0 H [18,2,20,2,22/2]
 [17] BA1 H [18,2,20,2,22/2]
 [17] BA2 H [18,2,20,2,22/2]
 [17] BA3 H [18,2,20,2,22/2]
 [17] BA4 H [18,2,20,2,22/2]
 [17] BA5 H [18,2,20,2,22/2]
 [17] BA6 H [18,2,20,2,22/2]

[17] RAS 3 L [18,19,20,21,22]
 [17] CAS 1 L [18,2,20,2,22/2]
 [17] WRT 1 L [18,2,20,2,22/2]

[17] BA0 H [18,2,20,2,22/2]
 [17] BA1 H [18,2,20,2,22/2]
 [17] BA2 H [18,2,20,2,22/2]
 [17] BA3 H [18,2,20,2,22/2]
 [17] BA4 H [18,2,20,2,22/2]
 [17] BA5 H [18,2,20,2,22/2]
 [17] BA6 H [18,2,20,2,22/2]

[11] INT BUS D00 L [9,2,11,18]
 [11] INT BUS D01 L [9,2,11,18]
 [11] INT BUS D02 L [9,2,11,18]
 [11] INT BUS D03 L [9,3,11,18]
 [11] INT BUS D04 L [9,2,11,18]
 [11] INT BUS D05 L [9,3,11,18]
 [11] INT BUS D06 L [9,3,11,18]
 [11] INT BUS D07 L [9,3,11,18]



GND PIN 16
 -5V PIN 1 FOR 16K MOS RAM
 +5V PIN 9
 +12V PIN 8

NOTE:
 ALL MOS RAM VOLTAGES ARE BATTERY BACKED UP

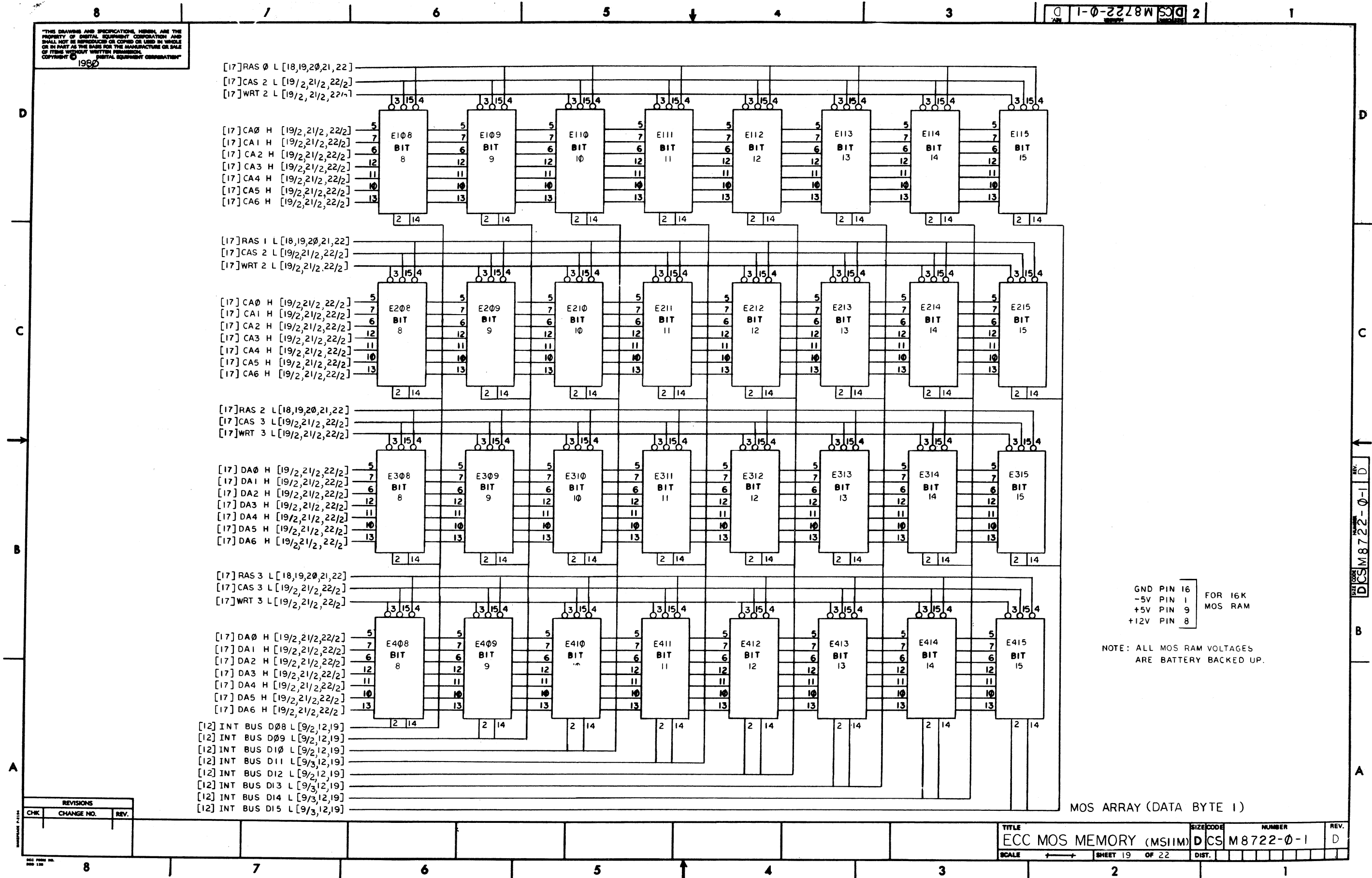
MOS ARRAY (DATA BYTE 0)

TITLE	SIZE CODE	NUMBER	REV.
ECC MOS MEMORY (MS11M)	DCS	M8722-0-1	D
SCALE	SHEET	OF	
	18	22	
DIST.			

REVISIONS		
CHK	CHANGE NO.	REV.

REV. D
 NUMBER
 DCS M8722-0-1

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GND PIN 16 FOR 16K
 -5V PIN 1 MOS RAM
 +5V PIN 9
 +12V PIN 8

NOTE: ALL MOS RAM VOLTAGES ARE BATTERY BACKED UP.

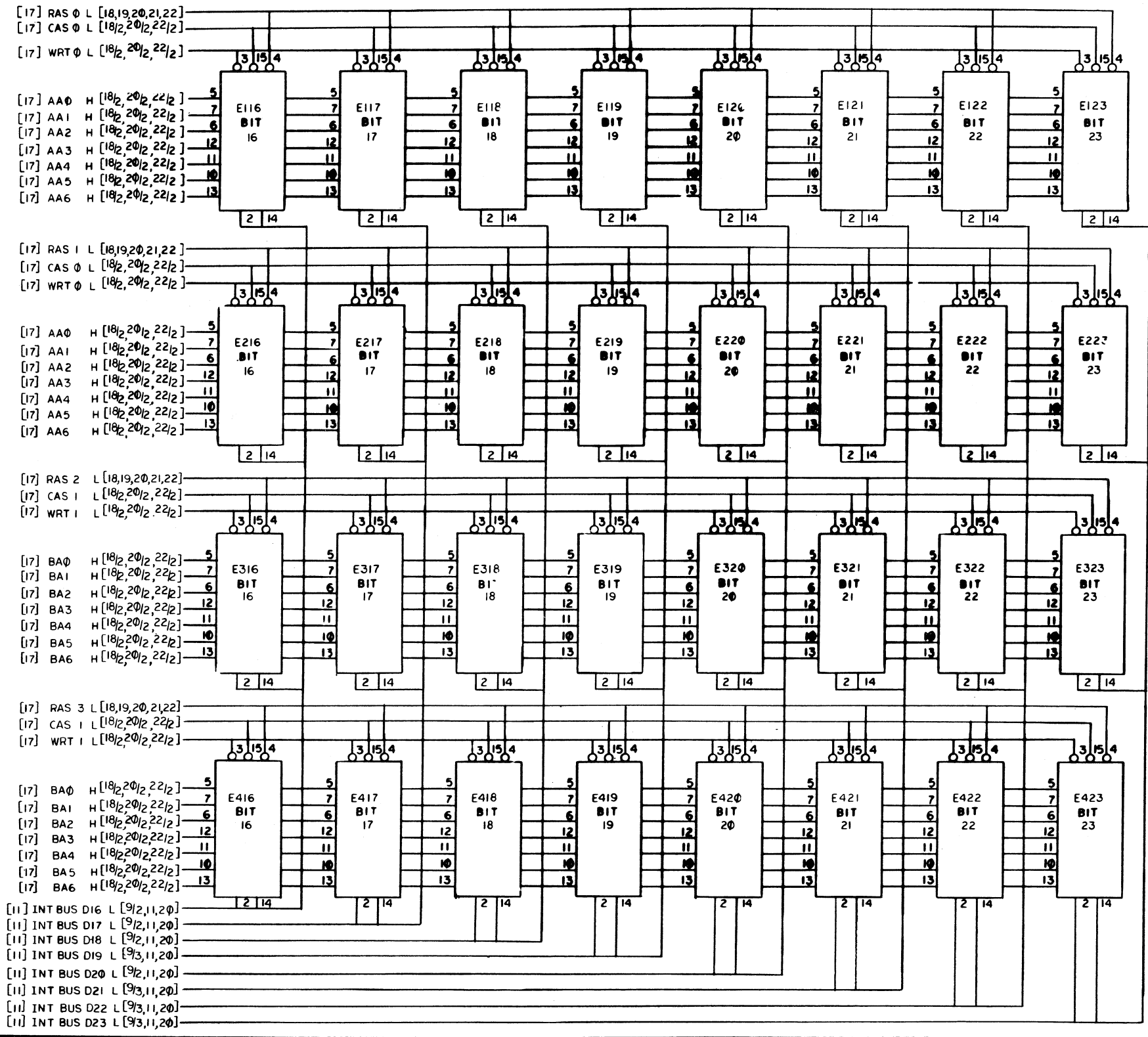
MOS ARRAY (DATA BYTE 1)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
ECC MOS MEMORY (MS1M)	D CS	M 8722-0-1	D
SCALE	SHEET	OF	DIST.
	19	22	

DCS M8722-0-1-D

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GND PIN 16
 -5V PIN 1
 +5V PIN 9
 +12V PIN 8

FOR 16K
 MOS RAM

NOTE:
 ALL MOS RAM VOLTAGES ARE BATTERY
 BACKED UP

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE CODE	NUMBER	REV.
ECC MOS MEMORY (MSIIM)		DCS	M8722-0-1	D
SCALE	SHEET	OF	DIST.	
	20	22		

MOS ARRAY (DATA BYTE 2)

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[17] RAS 0 L [18,19,20,21,22]
 [17] CAS 2 L [19/2, 21/2, 22/2]
 [17] WRT 2 L [19/2, 21/2, 22/2]

[17] CA0 H [19/2, 21/2, 22/2]
 [17] CA1 H [19/2, 21/2, 22/2]
 [17] CA2 H [19/2, 21/2, 22/2]
 [17] CA3 H [19/2, 21/2, 22/2]
 [17] CA4 H [19/2, 21/2, 22/2]
 [17] CA5 H [19/2, 21/2, 22/2]
 [17] CA6 H [19/2, 21/2, 22/2]

[17] RAS 1 L [18,19,20,21,22]
 [17] CAS 2 L [19/2, 21/2, 22/2]
 [17] WRT 2 L [19/2, 21/2, 22/2]

[17] CA0 H [19/2, 21/2, 22/2]
 [17] CA1 H [19/2, 21/2, 22/2]
 [17] CA2 H [19/2, 21/2, 22/2]
 [17] CA3 H [19/2, 21/2, 22/2]
 [17] CA4 H [19/2, 21/2, 22/2]
 [17] CA5 H [19/2, 21/2, 22/2]
 [17] CA6 H [19/2, 21/2, 22/2]

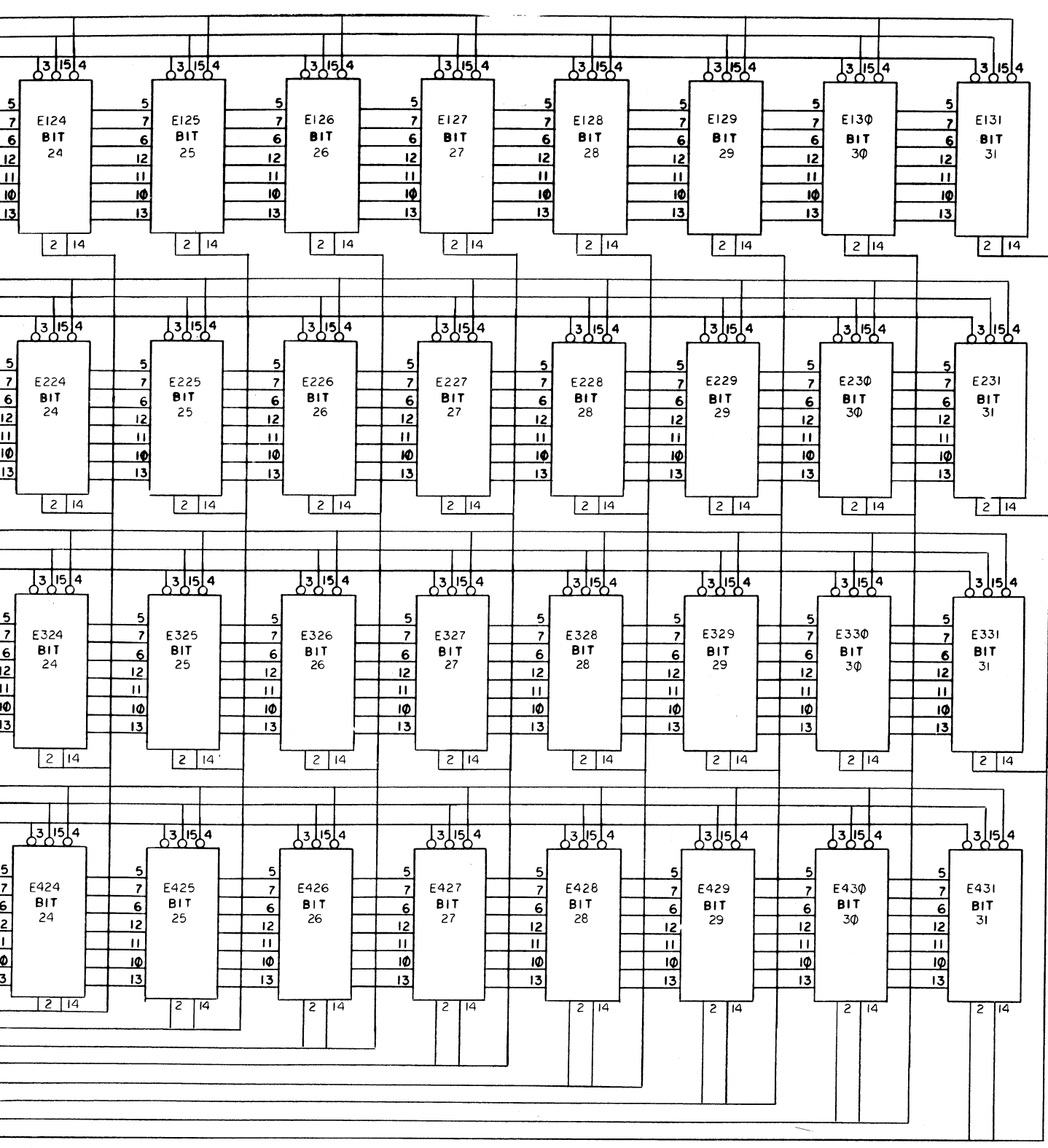
[17] RAS 2 L [18,19,20,21,22]
 [17] CAS 3 L [19/2, 21/2, 22/2]
 [17] WRT 3 L [19/2, 21/2, 22/2]

[17] DA0 H [19/2, 21/2, 22/2]
 [17] DA1 H [19/2, 21/2, 22/2]
 [17] DA2 H [19/2, 21/2, 22/2]
 [17] DA3 H [19/2, 21/2, 22/2]
 [17] DA4 H [19/2, 21/2, 22/2]
 [17] DA5 H [19/2, 21/2, 22/2]
 [17] DA6 H [19/2, 21/2, 22/2]

[17] RAS 3 L [18,19,20,21,22]
 [17] CAS 3 L [19/2, 21/2, 22/2]
 [17] WRT 3 L [19/2, 21/2, 22/2]

[17] DA0 H [19/2, 21/2, 22/2]
 [17] DA1 H [19/2, 21/2, 22/2]
 [17] DA2 H [19/2, 21/2, 22/2]
 [17] DA3 H [19/2, 21/2, 22/2]
 [17] DA4 H [19/2, 21/2, 22/2]
 [17] DA5 H [19/2, 21/2, 22/2]
 [17] DA6 H [19/2, 21/2, 22/2]

[12] INT BUS D24 L [9,12,21]
 [12] INT BUS D25 L [9/3,12,21]
 [12] INT BUS D26 L [9/3,12,21]
 [12] INT BUS D27 L [9/2,12,21]
 [12] INT BUS D28 L [9/2,12,21]
 [12] INT BUS D29 L [9/3,12,21]
 [12] INT BUS D30 L [9/3,12,21]
 [12] INT BUS D31 L [9/3,12,21]



GND PIN 16
 -5V PIN 1
 +5V PIN 9
 +12V PIN 8
 FOR 16K MOS RAM

NOTE:
 ALL MOS RAM VOLTAGES ARE BATTERY BACKED UP

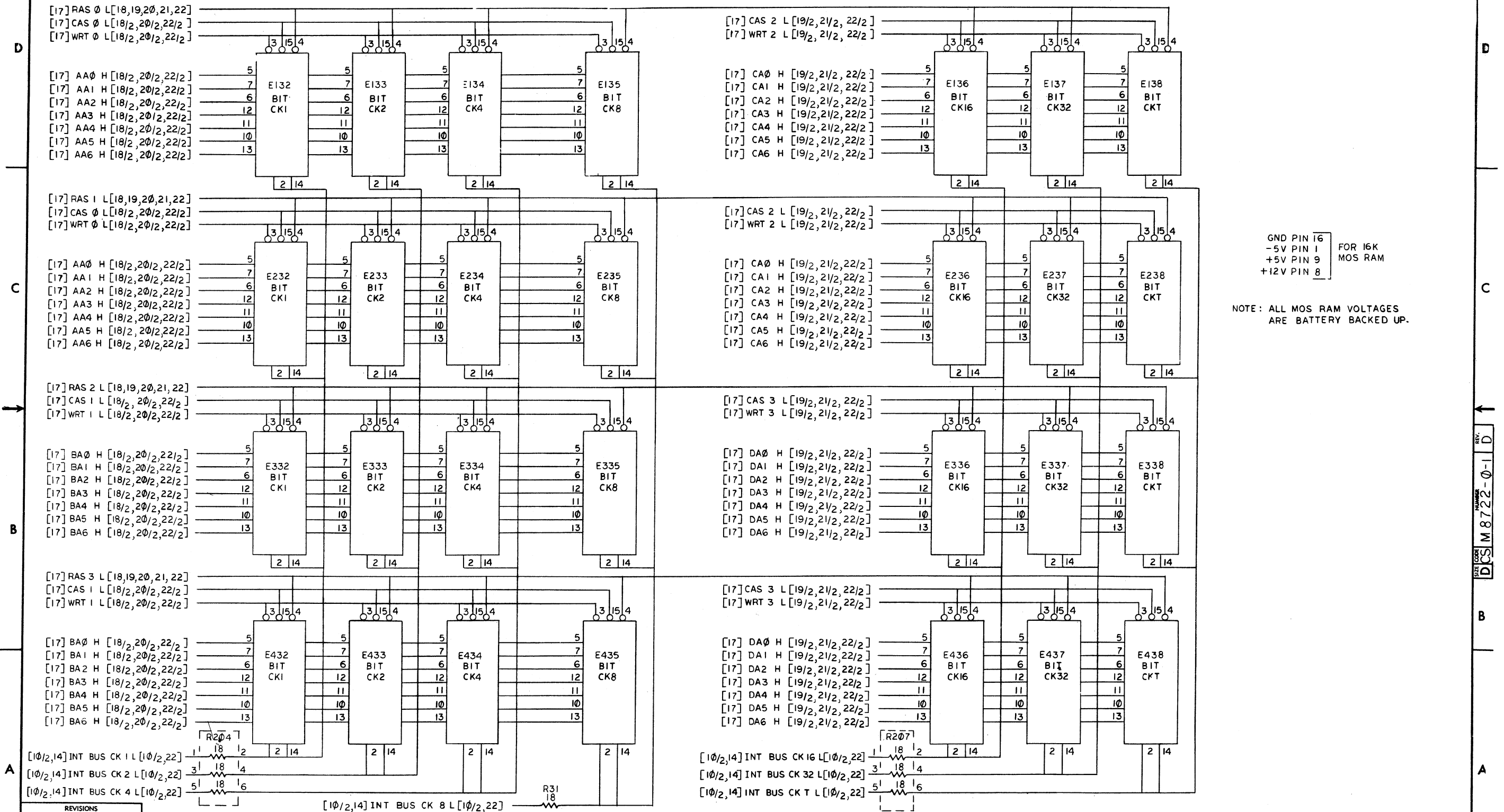
MOS ARRAY (DATA BYTE 3)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
ECC MOS MEMORY (MS11M)	DCS	M8722-0-1	D
SCALE	SHEET 21	OF 22	DIST.

DCS M8722-0-1

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REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE	CODE	NUMBER	REV.
ECC MOS MEMORY (MS1M)		D	CS	M8722-0-1	D
SCALE	SHEET	OF	DIST.		
	22	22			

**DIGITAL EQUIPMENT CORPORATION
PARTS LIST**

MADE BY H. DARAKJIAN DATE 28 MAR 79	CHECKED D. HEALY DATE 26 DEC 79	SECTION 1
ENG <i>John B. Manton</i> DATE 1-15-80	PROD <i>Bob Schaaf</i> DATE 1-15-80	ISSUED SECTION 1

QUANTITY / VARIATION									
MS11-MA	MS11-MB	MS11-MC	MS11-MD						

NOTES:

REF DESIGNATION

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	MS11-MA	MS11-MB	MS11-MC	MS11-MD							
1	B-TC-MS11-M-1	MP00742	PRINT SET MS11-M	1	1	1	1							
2		EK-MS11M-UG	MS11-M ECC MOS MEMORY USERS GUIDE	1	1	1	1							
3		AC-F294A-MC	MS11-M & MS11-L DIAGNOSTIC LISTING	1	1	1	1							
4		AK-F293A-MC	PAPER TAPE	1	1	1	1							

E.C.O. NO.														
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TITLE
MS11-M SHIPPING LIST

ASSY NO.
B-DD-MS11-M

SHEET 1 OF 1

SIZE B	CODE PL	NUMBER MS11-M	REV. A
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INSERTION PARTS LIST DATA BASE REV

